

ROGUE LEADERS



THE STORY OF  LUCASARTS
BY ROB SMITH • FOREWORD BY GEORGE LUCAS

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WRITTEN BY
ROB SMITH

FOREWORD BY
GEORGE LUCAS



601
CHRONICLE BOOKS
SAN FRANCISCO

Dedication

For Sandy.
For Everything.

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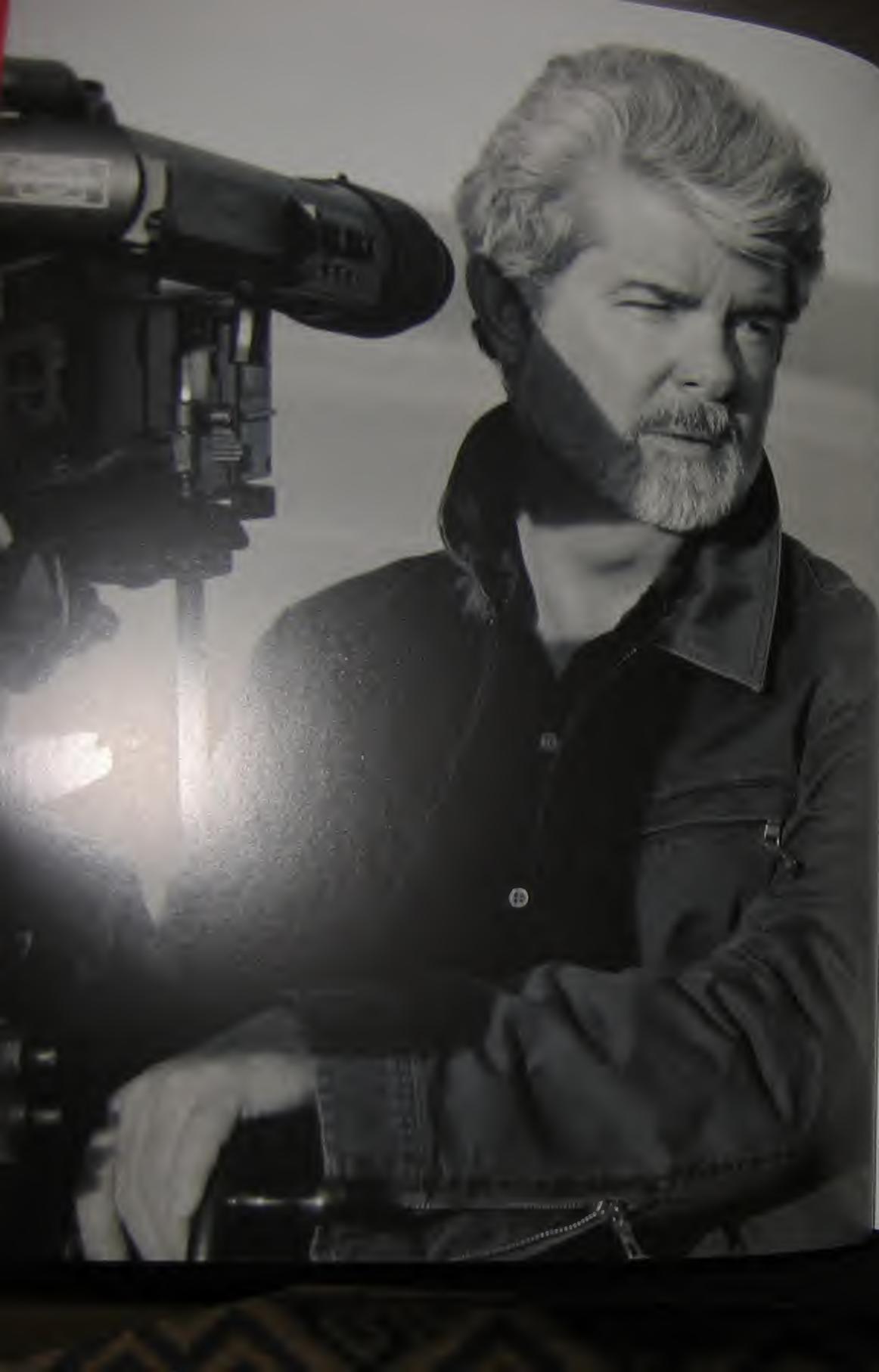
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Foreword

After encountering a frustrating array of technological limitation while making the original *Star Wars*, I felt there had to be a better way. The direction was obvious, and my dream became to move filmmaking beyond its inherent 19th Century technology into the computer age. Not long after I finished the film, I put together a group of people whom I felt could be pioneers in digital imaging and sound. I was fortunate enough to hire some of the best minds in the field, and they formed the Lucasfilm Computer Division. At the same time, videogames, although primitive, were emerging as an intriguing new form of entertainment—I was captivated by the idea of interactive technology as a new and different way to tell stories. It was also clear that some of the skill-sets in our new Computer Division would be relevant to this medium, so I had them start hiring for an additional group—that soon became Lucasfilm Games.

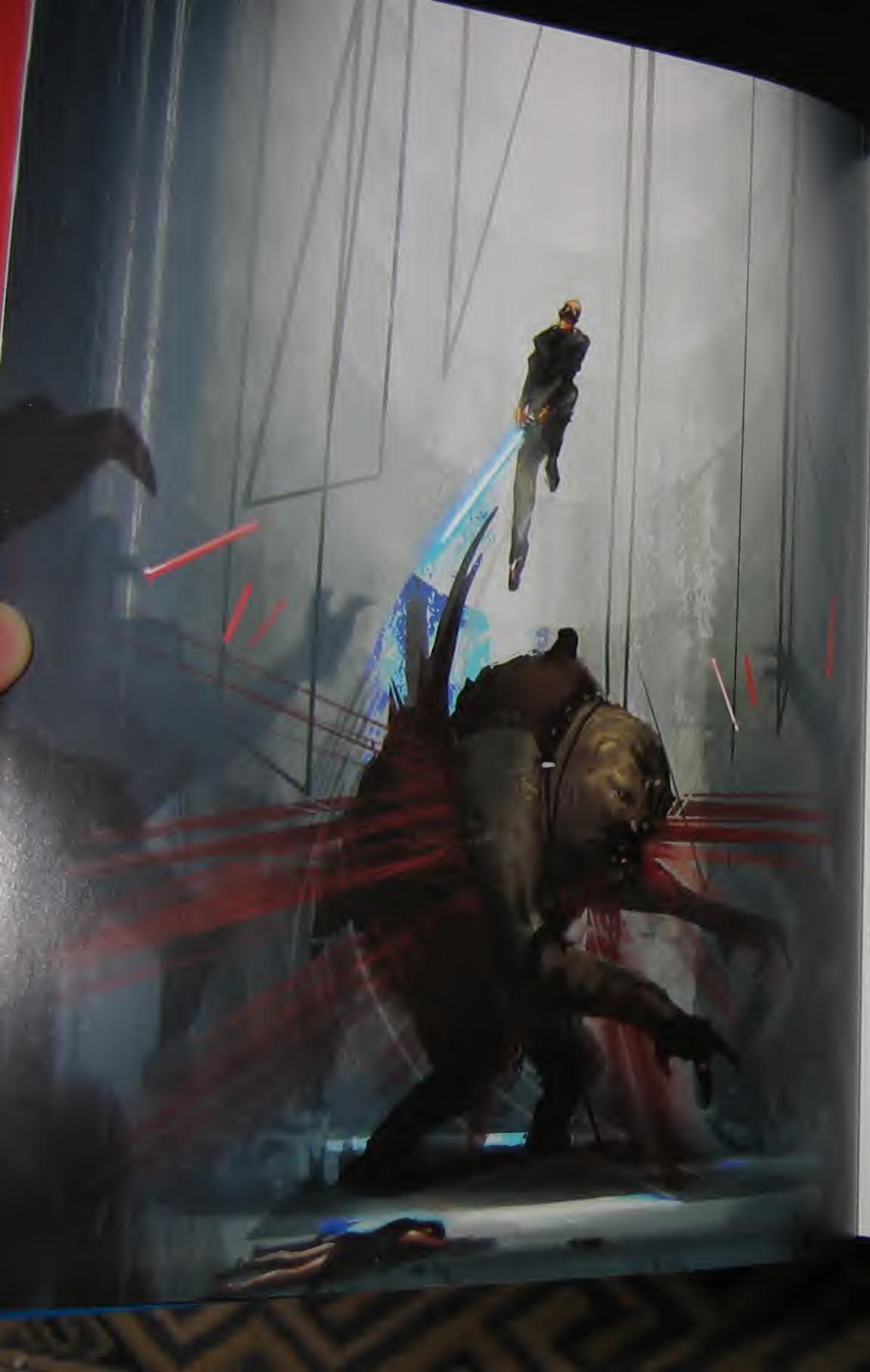
From the get-go it was important to me that the Games group build its own characters and stories. I wanted to have a really creative, independent shop. It's not a coincidence that our early videogames were *not* based on the *Star Wars* or *Indiana Jones* films. From Ballblazer to Rescue on Fractalus! to franchises like Monkey Island and Maniac Mansion, the Games Division made an impact with its original IP. It wasn't until the *Indiana Jones* games in 1989 that they began to tap into the movies.

Over the last 25 years, lots of other film studios and toy companies have ventured into the videogame arena, but nearly all have dropped out at one point or another, unable to tolerate the vicissitudes of the business. We've stuck with it. Lucasfilm Games of course became LucasArts, which is now located with Lucasfilm and our visual effects house, Industrial Light & Magic, at the Letterman Digital Arts Center in San Francisco's Presidio. Together their work continues to focus on creating great entertainment through the ever-expanding palette of digital technology.

We're excited about the future. We can do things today that seemed impossible when LucasArts was born 25 years ago. And this is only the beginning.



George Lucas
Skywalker Ranch



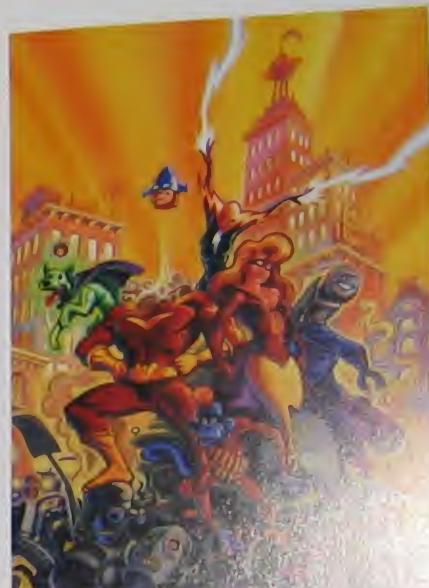
Introduction

It didn't take long after its formation in 1982 for Lucasfilm Games to earn the attention of the videogame press. Whether reporters were staring in disbelief at the Atari 800 graphick of *Rescue on Fractalus!*—even claiming they were being shown video and not actual gameplay code—or offering their souls for a first look at the latest game, the Games portfolio generated frenzied excitement with each impending release.

I am now part of that quorum of barterers. Having covered the videogames industry for more than 15 years, I've dissected every game published by Lucasfilm Games since 1993, and analyzed their significance in the industry. In fact, my very first cover as editor-in-chief of *PC Gamer* magazine, in May 2000, was for *Star Wars*: *Obi-Wan*, a game that would ultimately be cancelled for PC and released on Xbox (see page 143). I commissioned celebrated *Star Wars* artist John Alvin to paint an original image for that cover because the message was clear: When you want to publish the first announcement of a new LucasArts game, you pull out all the stops.

That commission, in fact, continued a legacy wherein *PC Gamer* put pretty much everything that LucasArts produced on its cover: the *Monkey Island* games, *Star Wars* titles, *The Dig*, and so on. After all, LucasArts stood for quality, and readers wanted all the details they could find.

To chronicle the entire LucasArts legacy within the pages of this book has been an unforgettable opportunity. Along the way, company veterans have recounted fascinating stories, as have some of the early protagonists; we've also unearthed sensational artwork



Left: Concept painting for Defenders of Dynatron City featuring (clockwise from top) Miss Megawatt, Toolbox, Buzzsaw Girl, Monkey Kid, Jet Armchair, and Radium Dog, by Steve Purcell, circa 1991.

Opposite: Concept painting of the *Obi-Wan* fighting a monster from *Star Wars: The Force Unleashed* (2008), by Stephen Chang, circa 2005.

from deep within LucasArts' archives. It's a history of a company fueled by amazingly good people, visionary people fed, of course, by a remarkable Lucas, a company that created lots of really good games that have helped shape the interactive-entertainment industry from its formation up to the present day.

Like many of you, I'm still playing those games.

Rob Smith



CHAPTER ONE

LUCASFILM GAMES

1982-1985

the early 1980s, Lucasfilm had established itself as a leader in the computer and toy industries. The paper-cluttered, toy-filled office of Lucasfilm Games (1977) considered itself a "toy company" that only grew more playful (but not less) over time (see *Snakes Back* (1980)).

Lucas' creative genius was on display in 1982, as he continued to introduce the world to his living archaeologist named Indiana Jones. Elsewhere in the entertainment world, visual effects and science fiction were emerging as powerful forces. *Star Wars*, *The Empire Strikes Back*, *Tron*, and *Blade Runner* were all drawing audiences as special effects transported viewers to fantastical worlds.

Sony launched the first CD player, the CDP-101, transforming digital media delivery. Machines like *Asteroid*, *Pac-Man*, *Robotron*, 2084, and *Joint*

still rocked down the quarters of high-score chasing arcade denizens. For the first time, consumers were discovering handheld LED games that blinked, blipped, and blipped as their personal electronic entertainment. Even tabletop gaming—from deep, complex war games to fantasy role-playing games like *Dungeons & Dragons*—proved that entertainment time would be spent playing games. Significantly, the pen-and-paper gamers could stretch their own creative talents by writing modules and game mechanics to suit their own home game. With each year, fans had fewer obstacles keeping them from applying their own imagination to game design.

To underscore the growing influence in both serious business applications and entertainment extensions, *Time* magazine named a controversial—but significant—Man of the Year: The Computer.

Home videogames had become a bona fide phenomenon, and Atari led the charge with its revolutionary 2600 console. Millions of cartridges and consoles were sold to consumers eager to bring just a little bit of that quarter-hungry arcade habit into the home. After licensing *Space Invaders* from Taito for the Atari 2600 platform in 1980, Atari's position wasn't just dominant for a videogame company; it was causing big businesses to take serious notice of this still-emerging market. Announcing some \$2 billion in profits in 1980, and adding more arcade hits like *Pac-Man* to the stable in 1982, Atari clearly had a huge source of potential business expansion with the home videogame market.

At this same time, Lucasfilm was displaying a highly original, adventurous story-telling approach in its movies. Founded in 1975, Industrial Light & Magic

(ILM) was leading the way in creating special effects. Lucas' creation of the Computer Division was his logical next step, and it displayed a desire to bring the high-end-ambition of the videogame business to Lucas had identified computer-generated effects as a key growth area in movies and TV production, so he established the Computer Division to investigate and create new technologies to deliver on this potential. Projects such as creating the "Genesis effect" for *Star Trek II: The Wrath of Khan* (1982) enabled the division to generate some positive cash flow while it invested in technology research and development.

Amid this convergence of technology and entertainment, it was apparent that the core target audiences of special-effects movies and the Atari game platform had significant similarities.





Above: Peter Langston, 1984

On the game side Atari was looking to Lucas, a uniquely innovative and creative film studio, and thought that its creative level of boundary-pushing could be applied to the entertainment potential of these old mainframes. Lucas and his team were able to play Langston's games.

The Oracle, StarDrek, and Empire II, released today as a classic of game design, were originally used as a study tool a few years later in the fledgling Lucasfilm Games. Its Risk-like multi-player strategy game play demonstrating an incredibly inventive edge. But Langston was playing hard to get. "I turned down the job because it sounded like I needed an entrepreneur rather than a designer," he recalls. "But Ed and Lucas were persistent, and they eventually made an offer I couldn't refuse."

Peter Langston became employee number one of the games group within the Computer Division. "My charter was to figure out where in the entertainment industry to apply the kind of high-tech approaches that were proving so revolutionary to

THE FIRST HIRES

Ed Catmull was head of the Computer Division at Lucasfilm in 1982. He was faced with the challenge of finding a qualified candidate to create a new division in a new branch of entertainment with a new directive; the search turned up Peter Langston. Based in New York, Langston had made a name for himself in the Unix community, in part for leading a team working on groundbreaking computer projects for major businesses, including Wall Street law firm Dreyfus, Polk & Wardell. But it was his gaming expertise that mattered, as that expertise would be vital in finding projects that could deliver commercial returns using Atari's investment cash.

Langston's team at Bell Labs' Unix operating system had created a range of games designed and released online and distributed over the network. They saw the entertainment potential of these games and mainframes were able to play Langston's games.

The Oracle, StarDrek, and Empire II, released today as a classic of game design, were originally used as a study tool a few years later in the fledgling Lucasfilm Games. Its Risk-like multi-player strategy game play demonstrating an incredibly inventive edge. But Langston was playing hard to get. "I turned down the job because it sounded like I needed an entrepreneur rather than a designer," he recalls. "But Ed and Lucas were persistent, and they eventually made an offer I couldn't refuse."

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"George wants to do games. By the end of the year, we'll have a game designer."

—Ed Catmull, vice president of the Lucasfilm Computer Division, (Rolling Stone magazine, June 10, 1982)



Above left: David Fox, 1984
Top: Ed Catmull, Alvy Ray Smith and Loren Carpenter

Above: Noah Falstein, 1984

Pages 14–15: Internal memos from David Fox, analyzing the videogame market in 1982

graphics, sound, and editing for movies, and then to build a group to apply them," he recalls. "It took very little time to settle on pursuing games—computer games, arcade games, and theme-park rides—as the focus. Both creating the games and acting as the review and quality control for games licensed to others for development."

Amongst the rest of the Computer Division, much of the work was centered on research and design—the tools and techniques that could be used to bring high-end visual effects and digital post-production to movies. To an extent, the games group worked under the same premise, but where the rest of the division was spending money on its development work, the games group was actually able to turn a profit, thanks to Atari's initial cash injection.

Staffing up in those early days wasn't a significant challenge given the established cachet of the Lucas name. David Fox and David Levine were two of the first employees aboard the Lucasfilm games group, which lacked a formal name at the time. "David and David beat down the door to be part of this new Lucasfilm project, and they made it quite clear when I interviewed them that I was going to hire them," says Langston. Joined by Rob Poor—who had jumped from a laser-film scanner/printer project with Lucasfilm—the group began to work on technology and what were considered potentially "throw-away" game projects, all of which would flex their varied creative and technical skill sets.

(continued on page 16)

Thoughts on Game Development

David Fox

Lucasfilm, Ltd.
September 3, 1982

David Fox
9/10/1982

I have been playing a few new games and thinking about all of the old games I've played. Here are some of my thoughts.

Best of the Star Wars Films

Since our game software will be a Lucasfilm product, it seems appropriate to take a look at what Lucasfilm is famous for: its films. The best elements of the Star Wars films are:

- The very very good vs. the very very evil
- Secret or unknown weapons in the hands of the evil ones which can possibly be overcome with simpler, less effective weapons (often combined in new or unusual ways) through the use of ingenuity, skill, and teamwork.
- Overcoming immense odds after feeling helpless/hopeless (emotional highs and lows, not just highs).
- Dazzling special effects modeling realities. Includes great sound effects, very different life and death struggles, not just the same ones over and over again.
- Fully engrossing storyline - can't put down. More than one climax is needed - in fact there should be a sort of mini-climax every few minutes.

Computer Games Shortcomings

So, what is lacking in current computer games? Here's a partial list:

- Usually a poor attempt to model the real world. This is caused by a lack of hardware sophistication. One game, Zaxxon, has a vehicle from that perspective. The point of view should at least be right behind the vehicle. Battlezone is the best example I've seen of a simulation, although it lacks the filled in shapes and color of other games. Would it be a lot more fun if you were inside the ship rather than outside it (possibly with a smaller, bird's eye point of view to help locate the asteroids)?
- Many games rely purely on the physical skills and agility of the player and don't reward intuitiveness, creative thinking, developing strategies or taking off-the-wall chances.
- Some arcade games include humor, usually when you are destroyed, but more is needed. A game with expertly executed animation can turn an average game into a hit.
- I haven't seen any games which make use of state of the art computer graphics technology. Loren and I have been talking about using fractals in a game (see below). He doesn't see any reason why not. And what about the use of color map rotation?
- Many games don't have enough "intrinsic significance" to them - who really cares about shooting a bunch of rocks or eating little dots? On the other hand, games like Missile Command have so much significance that they are frightening - they are a little too close to current reality. We need more pure escapist fantasy which the player can really embrace.

in Raiders or Star Wars. Stories which have no basis in current reality, yet contain characters which are real enough to identify with would be good. The TRON video game is nice in that it does have a character on the screen which represents you, but the "user" doesn't really care about him (other than for winning the game).

- Games which have excellent graphics and sound are rare. Usually the developers put their attention on one or the other. TRON is an exception to this down falling. It makes excellent use of sound effects (mimicing the film) and adequate graphics. We have the potential to produce games which are superb in both areas.

- The beginning levels of many games are way too advanced for beginners. But if a game is too simple, the game connoisseurs will pass it. I don't think that entering your skill level at the start of the game is a good method of setting levels. Having to advance through many levels may be boring for skilled players. It might be possible to measure response times, agility and accuracy as the game is being played rather than waiting for the user to advance through the levels. This would make the game playable by anyone.

Some questions to be answered:

- I know we can't use Star Wars characters, but can we use Star Wars places, vehicles, weapons? What does the licensing agreement say?
- Is it possible to include a processor/circuitry/extra RAM inside a VCS cartridge to produce much better games than the machine could ordinarily display?
- Can more than 8K of ROM be squeezed into a VCS cart and still keep costs reasonable?
- Would there be a profit involved in doing either of the above, planning to sell fewer cartridges at higher prices but making them the cream of the VCS games?
- What about producing a game which uses a new VCS analog joystick controller. I know it would be possible (each port can handle two analog paddles). What about a track ball?
- What about a two volume game, Part I and Part II, contained in two cartridges? When the player reaches a certain level/score, he can continue with the second cartridge.

A Game Idea - "Rebel Rescue"

In this game, the player is operating a high speed X-wing like craft. The object is to fly over rugged terrain while trying to locate a missing Rebel pilot and his downed plane. The point of view is from the cockpit, so everything on the screen is either the view out the window or the controls.

To create the sense of moving over the terrain, horizontal fractal lines will be used. Enemy fighter planes have been alerted to the player's approximate whereabouts so the plane must be kept as close to the ground as possible to avoid their radar. Of course, if the player gets too close, he will crash.

To help locate the downed plane, a homing signal is used. The player can tell whether he is getting closer or farther away. When the player passes over the downed pilot, a speck can be seen streaking by on the ground. Since many other specks also pass by, the player must keep one eye on the instrument panel homing signal indicator.

The plane is controlled by the joystick. Left and right moves the plane left and right. Forward and back on the stick adds or subtracts altitude. The button could either be used for a throttle control or as a fire button (possibly a rear gun for the enemy planes). Possible controls include fuel gauge, air speed, compass heading, and radar.

The game becomes more difficult the longer the player survives. The terrain gradually changes from more or less level ground to steep canyons and valleys. After some point, the enemy spots the player's plane, begins chasing it and firing at it. Points are scored for the amount of time in the air, number of enemy planes forced into the canyon walls, and especially for finding the lost Rebel pilot! If the pilot is rescued, the game continues at a higher level (tougher terrain, more enemy fighters, etc.)



Top: Computer Games magazine welcomed Lucasfilm to the games business in its Nov./Dec. 1984 issue.

Above: Atari Connection magazine announced the emergence of the new game studio, spring 1984. Clockwise from top: Peter Langston, David Fox, Charles Kellner, Gary Winrich, and David Levine.

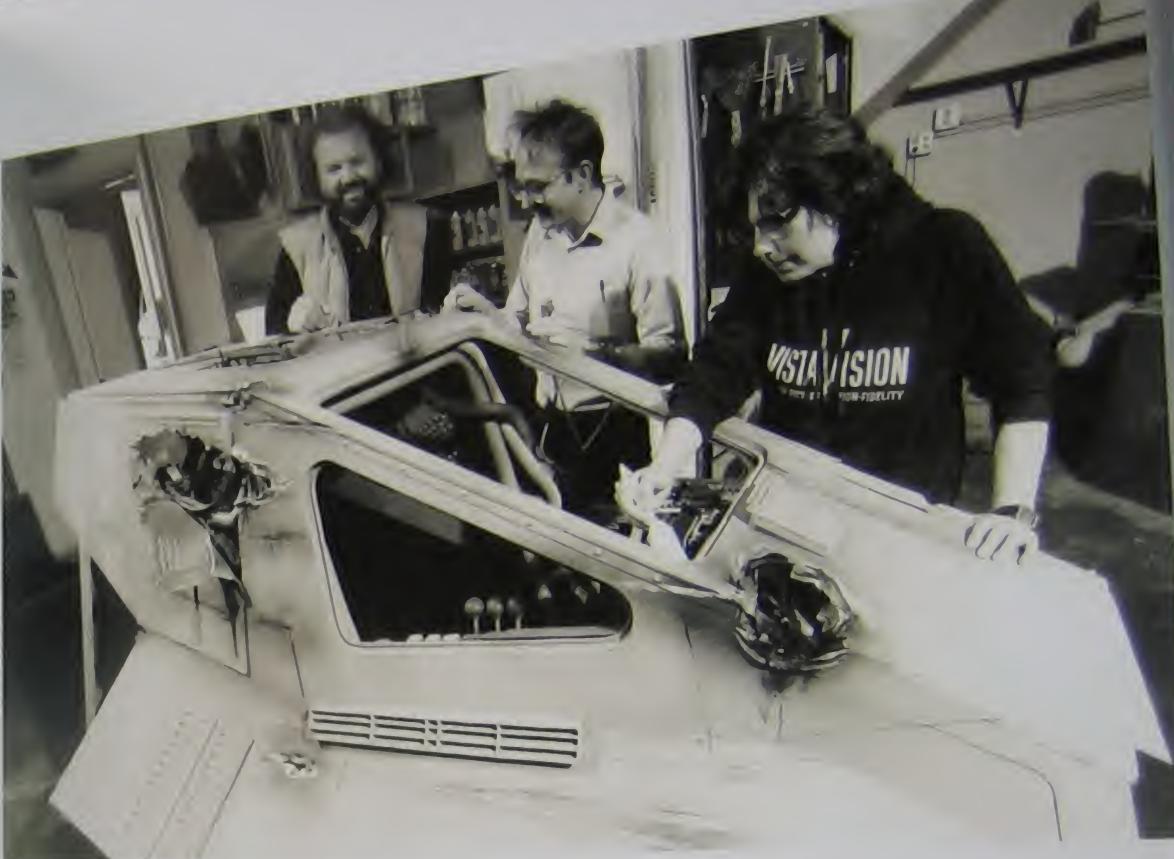
Right: An original box cover concept for *Rescue on Fractalus!* using the working title of "behind Jaggi lines!" which started out as "Rebel Rescue."

TECHNOLOGY • DESIGN

When David Fox arrived for his new job at Lucasfilm, he was assigned an office with a Computer Division graphics wiz, Loren Carpenter. In these early months there was little cross-pollination between the Graphics Group—the visual-effects experts who operated as their own division under the Computer Division banner of Lucasfilm—and the game guys, aside from their office-sharing (and the manual and packaging that ILM eventually created for the first two games). Over time the games group got to do demos on some of the high-end computers and sound systems that were used for movie projects, and they borrowed Carpenter to finish his fractal technology work (sidebar, opposite). Generally, though, they had to create their initial games—which, again, the menu considered throwaway projects.

One such project was "Rebel Rescue." Fox's design was simple enough: You would fly a spaceship across a craggy landscape searching for downed pilots. In the fiction of the world, the ship's guns had been removed to allow for as much live space as possible to pick up pilots. You fly. You find. You stop and pick up the pilot. You move on. Bumming through the mountains was tricky, avoiding enemy ships involved leading them on a chase until they crashed into mountains.

George Lucas wasn't overly involved in the games group, but Fox and David Levine showed a 20-minute demo of *Rebel Rescue* to the boss. Fox recalls how Lucas sat at the computer, started flying, and asked him where the fire button was, only to be told that there wasn't one. Lucas then asked if that was a game design or a moral choice. Fox admitted it was a moral one. In the post-meeting work on the



Fitting Fractals

...a fire button was added. That wasn't George's only contribution to the design, however. He also required you to land, and then a pilot would fly up to your ship and hop in. Lucas figured that every now and again, a pilot could not find you, but in fact it would be an alien in disguise. This seemingly subtle design change significantly impacted the player's experience and contributed to the game's long-lasting appeal.

Fox secured permission from Atari to use the game to be publishing the game—to not mention the name in the manual or in any of the PR. In fact, the alien aliens don't appear through the first four levels of the game, so that just as you get into the later landing, turning off the engine, seeing a gun



Not surprisingly, the Computer Division then loaned Carpenter to the games group to finish what he'd started. And, thus, the Lucasfilm games guys generated their first cutting-edge piece of technology to power their first games.

Above: Engineers from Lucasfilm assisted with building a Valkyrie Class Fighter model that would be used in *Rescue on Fractalus!* packaging.

Left: Lucasfilm Games' first fractal graphics engine pushed the available technology beyond the media's expectations, as seen here in this screenshot from *Rescue on Fractalus!*



Top: Team members Peter Langston, Gary Winnick, and David Fox autographed one of the final shipping boxes for the Atari 5200 version of *Rescue on Fractalus!*

Above: The final box packaging showcasing the Atari and Lucasfilm relationship in bringing *Ballblazer* to the Atari 5200 (1984).

Top, right: The Masterblaze helmet used as a prop in photographs promoting *Ballblazer*.



and, and unlocking the door for him, you might not notice that the figure appearing has a green heart. If the door was open, you'd be boarded and have to fly like mad into space and hopefully escape him through the airlock. Despite Rob's convincing graphics, Fox recalls numerous people coming out with tales of falling from their chairs in excitement, giving a huge adrenaline rush from the game.

The title *Rescue on Fractalus!* was chosen to create a sense of mystery and wonder, as well as the Star Wars universe. But the Lucasfilm connection remained off-limits to the marketing team. The game's mission became the secret to success. "It was Fox's personal history that he wanted to direct at the very target audience," says Fox. "It's a misconception representing the end user as being too technical for a console game, as well as the guys working in high-end graphics, because most own jaggedy with anti-aliasing techniques as well as it. Leaning on the technology itself, the company finally went with *Rescue on Fractalus!*

While David Fox designed and programmed this space adventure game, fellow games group designer David Levine was applying fractal technology to the second game in the studio's portfolio, *Ballblazer*. In the fall of 1983, *Rescue on Fractalus!* and the

now-renamed *Ballblazer* were ready for Atari's marketing and technical department.

And that's where events turned sour.

According to Steve Arnold, who would join the newly created Lucasfilm Games Division as the general manager in January 1984 when it was established as a separate business unit, the problem was that Atari "basically gave away copies of the game." Peter Langston recalls that the games were sent to Atari "under extreme terms of silence, nondisclosure only, but no after-reading security. You all appeared shortly thereafter on the underground networks, and the pirated version won some awards."

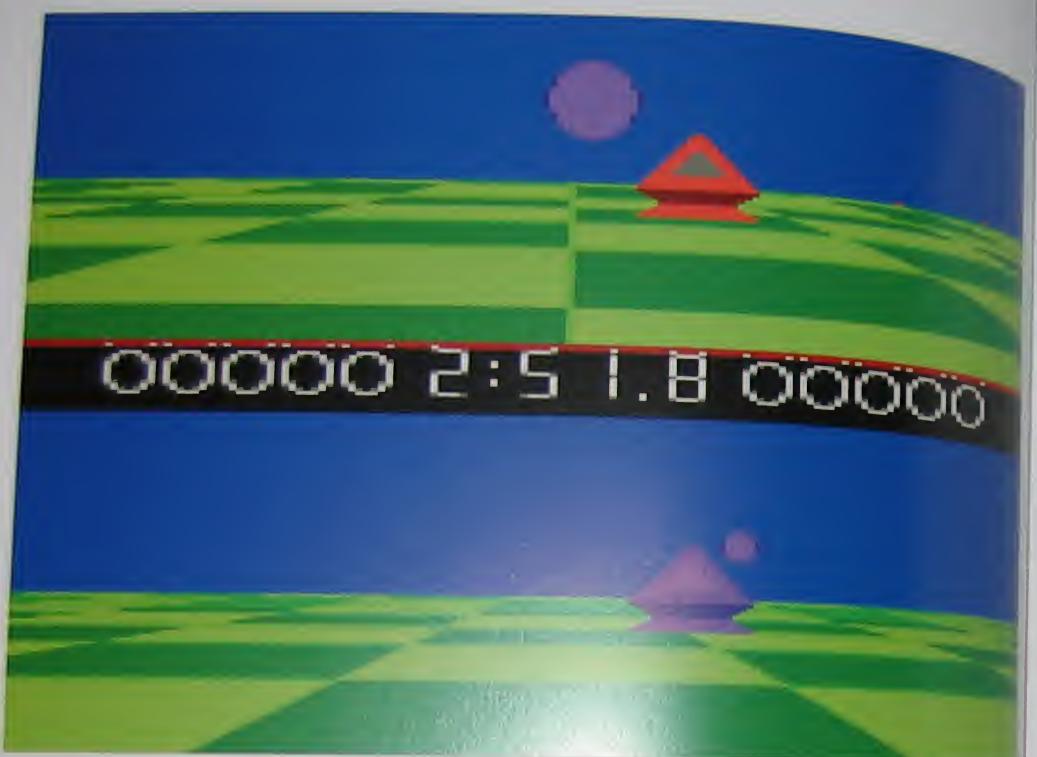
Without any form of serial number or protection, the games were available for download on the early "online" bulletin boards of the day, with the enthusiasts buying the Atari 800 and those involved with the first 300-band modems and bulletin boards, and it was a quick step to download. In fact, early reviews of both games noted their working titles, but they had been leaked. Even Tim Schafer—who several years later would join LucasArts and go on to design some of its most genre-defining games—recalled his fondness of "Ballblazer" during his interview with

Still, the technology on display caused a stir around the industry when it was showcased in January 1984 Consumer Electronics Show. One attendee who saw demonstrations of the game's pre-release copies claimed the developers were faking. "We were told we must have video bad tapes, that we must be faking it," recalls Steve Vass, in reaction to the fractal technology. One person apparently looked for a VCR behind the monitor.



Above: A model Jaggi suicide saucer created for *Rescue on Fractalus!* packaging.

Left: The *Ballblazer* Rotolot model used in photographs to help promote the game's launch in 1984.



Above: David Levine's split-screen soccer-style game, with its very sophisticated graphics, actually played like a simulation. Players could judge where the ball would end up, in large part due to the physics assistance of Loren Carpenter. The competitive aspect of Ballblazer's two-player game also helped establish an storied reputation in industry history.

Right: Atari 5200 Ballblazer cartridge



the display stand, which he assumed had been a pre-taped source of the visuals and the sample was simply that no one could believe how it was possible on an 8-bit home computer—let alone leveled at many first showings of cuteness and analogy throughout the history of the video game business. But this was the real deal.

Meanwhile, Atari was creating its own. Having spent \$25 million acquiring the rights to make a game based on Steven Spielberg's *E.T.*, it then built one in a scant six weeks—and it flopped in the marketplace. One of the many stories in the games industry is the resulting covered landfill in New Mexico that became millions of unsold or returned *E.T.* console. The implosion further delayed the release of the first Atari/Lucasfilm games—this after months

of painstaking negotiations had necessitated even the intervention of Lucas, just to get the painful version 1.00 approved.

Eventually the founder of Commodore Computer, Jack Tramiel, bought Atari from the Warner Communications parent. The impact for Lucasfilm was further delay in understanding Atari's strategy moving forward, and the need to renegotiate the original contract. Finally the rights reverted to Lucasfilm, which struck a new deal with distributor Epyx (1981). *Rescue on Fractalus!* and *Ballblazer*

"We're trying to change the idea that you have to be a computer programmer to create videogames."
—Ed Catmull

hit retail shelves. Both were received warmly by critics (though most had probably played through the games in some form in the preceding 12 months). Steve Arnold recalls the games selling well—"in the tens of thousands, or maybe 100,000 copies each, which was a big number at the time." Selling 50,000 units each would have been considered a huge success, so this was still a very positive first result. But it caused almost everyone at the company to wonder what might have been had the pirating of those early releases not been so widespread.

Star Wars—The Arcade Machine Legend

Lucasfilm had little involvement in creating Atari's massively popular vector-based arcade game. A positive aspect of the contract, however, stated that Lucasfilm would get the game for its own reference (or general enjoyment). Peter Langston studied the game's manual and discovered a switch or connector on the back of the machine that would flip it into a debug mode. If the contact was closed, the view on screen would stop and the fire button would advance the scene one frame—which showed him to freeze time, manually move the cursor, and then blast enemies at will. It was a handy function that Langston decided to make more accessible by putting a button in the cockpit that activated the switch contact. A label was attached to the button—"The Force".

About two years later, Steven Spielberg—who, always a gamer, would check out the projects in development during his regular visits to Lucasfilm and ILM—asked to borrow the Star Wars machine while he was working on *Indiana Jones and the Temple of Doom*. You know, just to keep him entertained on the sound stage during down time. So enamored was Spielberg with the game, he decided to order one for his own office in Los Angeles. Shortly after his new machine arrived, he was on the phone to Atari, wanting to know, "Where did 'The Force'



"button go?" It had to be explained that this handy cheat was not a part of the actual game design.

Atari and Lucasfilm Plan Joint Venture In Video Products
Warner Communications Unit And Movie Firm to Market 'Raiders' Game Cartridge

Above: Headline from June 7, 1982, *Wall Street Journal*

Left: Flyer promoting Atari's Star Wars arcade machine, circa 1983

E



The Second Round: Koronis Rift and The Eldolon

KORONIS RIFT

LUCASFILM GAMES



Another new games group employee was Noah Falstein, who came to Lucasfilm Games from Williams Electronics, where he worked on arcade-game design (leading, for example, the *Simistar* project). "Peter [Langston] was a little reluctant to hire me because I had worked at two actual game companies, and no one else in the group had ever worked even at one—he was worried that I wouldn't be able to come up with new concepts, since I was an old hand at age 26," he recalls. But after helping on *Rescue on Fractalus!*, Falstein suggested the basic concept for a game he would call "Tanks A Lot" and was told to get started. "I didn't even do a real budget or schedule for it," he says of the minimal approval process at the time.

Struggling for a "real" title instead of the working pun for this space-based tank-scavenging action/strategy game, Falstein returned to the name of a project from his college days, and *Koronis Rift* (1985) was born.

Alongside Falstein, another newcomer to the group, Charlie Kellner, was designing a fantasy-based game called *The Eldolon* (1985), which would use the same fractal technology as *Koronis Rift*, *Ballblazer*, and *Rescue on Fractalus!* Both *Koronis Rift* and *The Eldolon* were commercial successes for Lucasfilm Games, as well as for Epyx, the new publisher for these two projects.



Above: Lucasfilm Games released both *Koronis Rift* (1985) and *The Eldolon* (1985) for Commodore 64 and Amiga systems through Epyx.

Left, top: The artwork for *Koronis Rift* showing the Surface Rover driven in the game.

Left, middle: Screenshot from *Koronis Rift* showing an enemy Guardian Saucer.

Left, bottom: Screenshot featuring an advancing robo from Lucasfilm Games' Amiga setting game, *The Eldolon*.

Opposite: Concept sketch used in the game manual for the dragon in *The Eldolon*, artist unknown, circa 1984.

9.8 78% DROP OUT HALF TONE SHOOT A TOUCH DARK



CHAPTER TWO

ADVENTURE AND SIMULATION

Contract renegotiations with Atari, seeking a new distributor, and figuring out how to market the company's pirated *Rescue on Fractalus!* and *Battlezone* games on retail shelves had required a different type of business management. So while Peter Langston remained head of Lucasfilm Games' research and technology arm, Steve Arnold joined the company to manage the growing and evolving business.

Arnold had broken new ground leading the Atarisoft group, where he licensed successful arcade games to new machines outside the Atari family. After hitting the market in fall 1983 with arcade versions for the Apple II, TI99a, Commodore 64, Commodore Vic-20, and IBM PC, the Atarisoft team shipped 35 products across the five platforms in

just five months, generating 70 million in sales. Still, the parent company was losing a reputed \$100 million per month as the extravagances and escalating license and development costs converged with plummeting sales. Unconvinced that a turnaround was in the offing, Arnold returned the call from a recruter to join Lucasfilm in late 1983.

When Arnold entered the fresh green pastures of Lucasfilm Games in January 1984, he found the first group of employees working around 10 a.m. and working late into the night. He recalls the era as one of high creativity and fun. "It was a great time for raw innovation, surrounded by others doing groundbreaking work," recalls Arnold. Alongside Lucasfilm Games, the Graphics Group was using its Pixar graphics machine to produce high-end



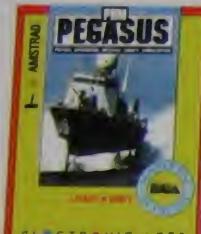
"It was a great time for raw innovation, surrounded by others doing groundbreaking work."

—Steve Arnold, general manager

fact, the machine was originally sold as a hardware platform to medical-imaging companies, among others. The Graphics Group would later be named Pixar, after the machine powering its visual creations (because a general consensus couldn't be reached on alternatives), and then would eventually be spun out and sold to Steve Jobs as its own entity. This core group—consisting of Ed Catmull, Alvy Ray Smith, and John Lasseter—would go on to massive success on the back of its animated movies.

For the games group, Arnold had concise directions from Lucas: Stay small, be the best, and don't lose money. Beyond that, Lucas' personal involvement in the games business was limited. Long-time LucasArts project leader Hal Barwood (1990) described Lucas' contribution as that of a rich uncle: "he paid the tuition fees to get you through college but never knew what your major was."¹⁴ In fact, early Lucasfilm Games designer and programmer Chip Morningstar (1984) recalls Lucas describing the games group as "The Lost Patrol": "Nobody knows for sure where they are or what they're doing, but they're somewhere out there."

Left: The Lucasfilm Games logo involved with Lucasware games and all the platforms allowed more complex graphical and color options.



DIPPING A TOE IN THE SIMULATION WATERS

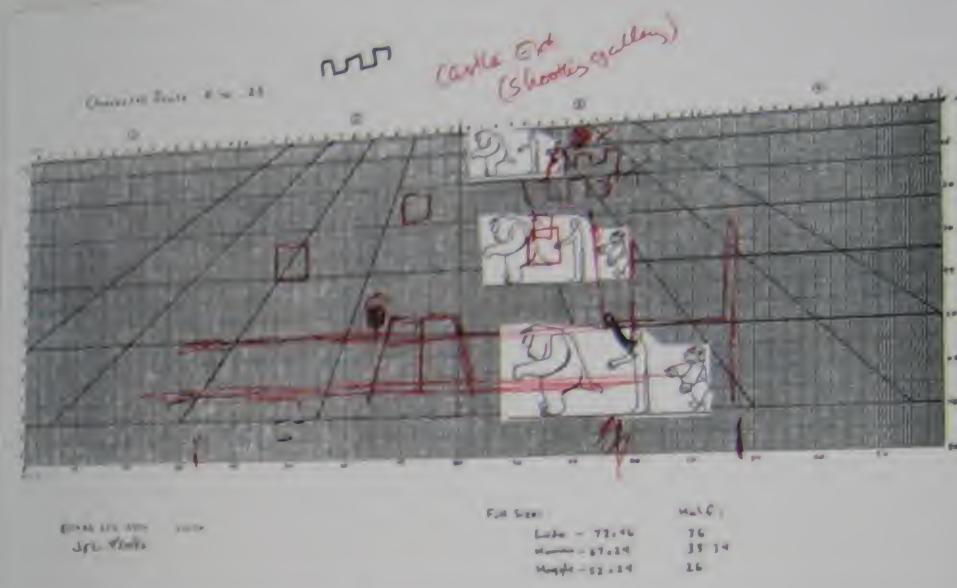
Making a profit had never been a prime directive during Lucasfilm Games' early years. Between the Atari seed money and positive returns on its other games, it held its own. When the Computer Division spent an alleged \$500,000 creating a two-minute animation demo for a showcase at the 1984 Siggraph show, the potential to attain profitability became, for the first time, a key factor in greenlighting game projects. Still, the approval process remained largely relaxed.

"Steve [Arnold] came to me after Kaitome Rift and said, 'Come up with a hit,'" recalls Noah Falstein. Elsewhere in the gaming world, military simulations had begun to emerge, as game developers learned that the latest technology could be used to create a wide range of military

After time spent and games won, the suggestion to develop a military simulation initially fell with every member of *Luciferian Games*. "Balkanizer designer] David Levine in particular was adamantly against doing anything like that was selling out, and I wrote a poem called 'Blood on the Water' to protest my idea," Falstein recalls. All in-house reticence to the military nature of these simulations, given the



The First Movie Tie-In—Labyrinth: The Computer Game



Before Lucasfilm Games was developing *Galaxy of Heroes* in its parent company's name, it signed on to create the game that would represent Jim Hammer's (Acronym (George Lucas was the film's executive producer). Through Hammer (Steve Arnold and David Fox) work out in contract, and Hammer is a guide to the Galaxy with Douglas Adams. "We had one of the most interesting weeks of our

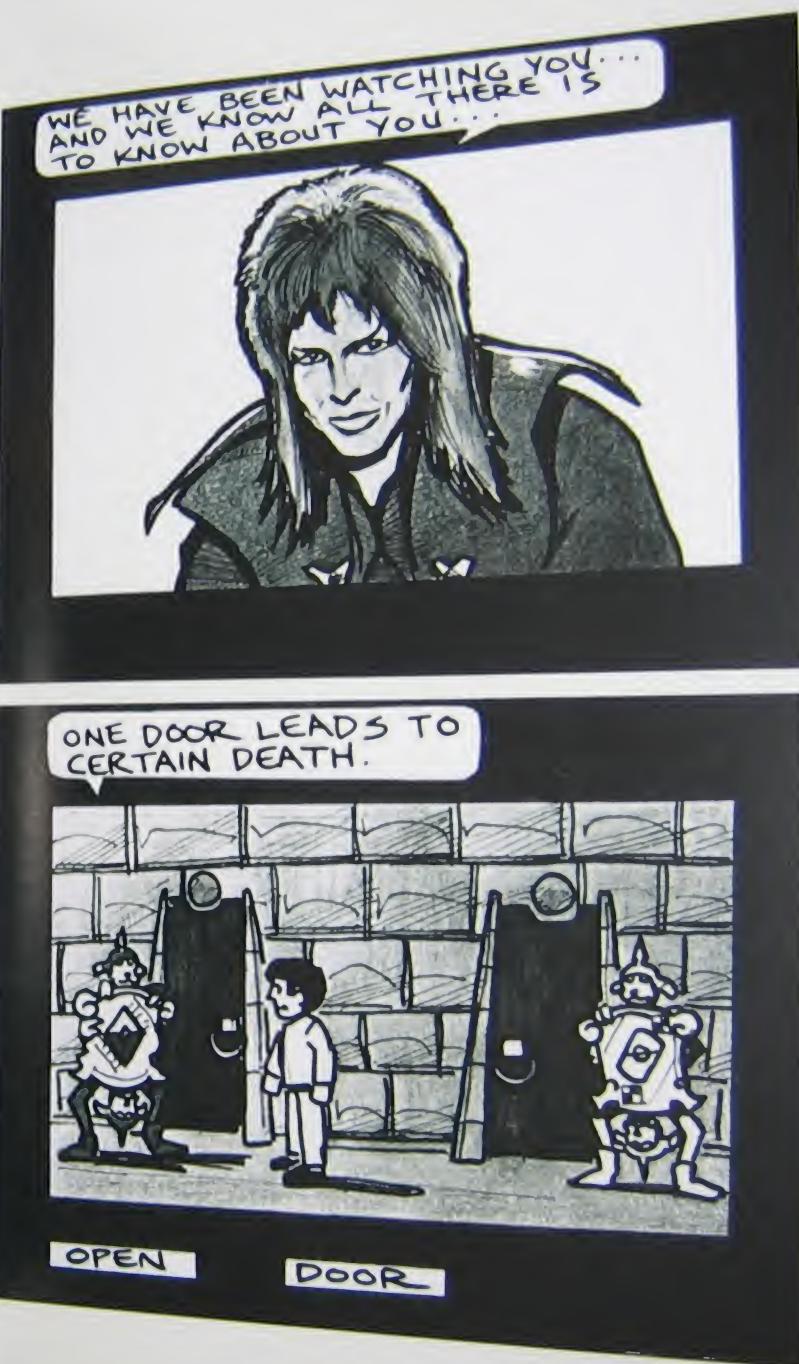
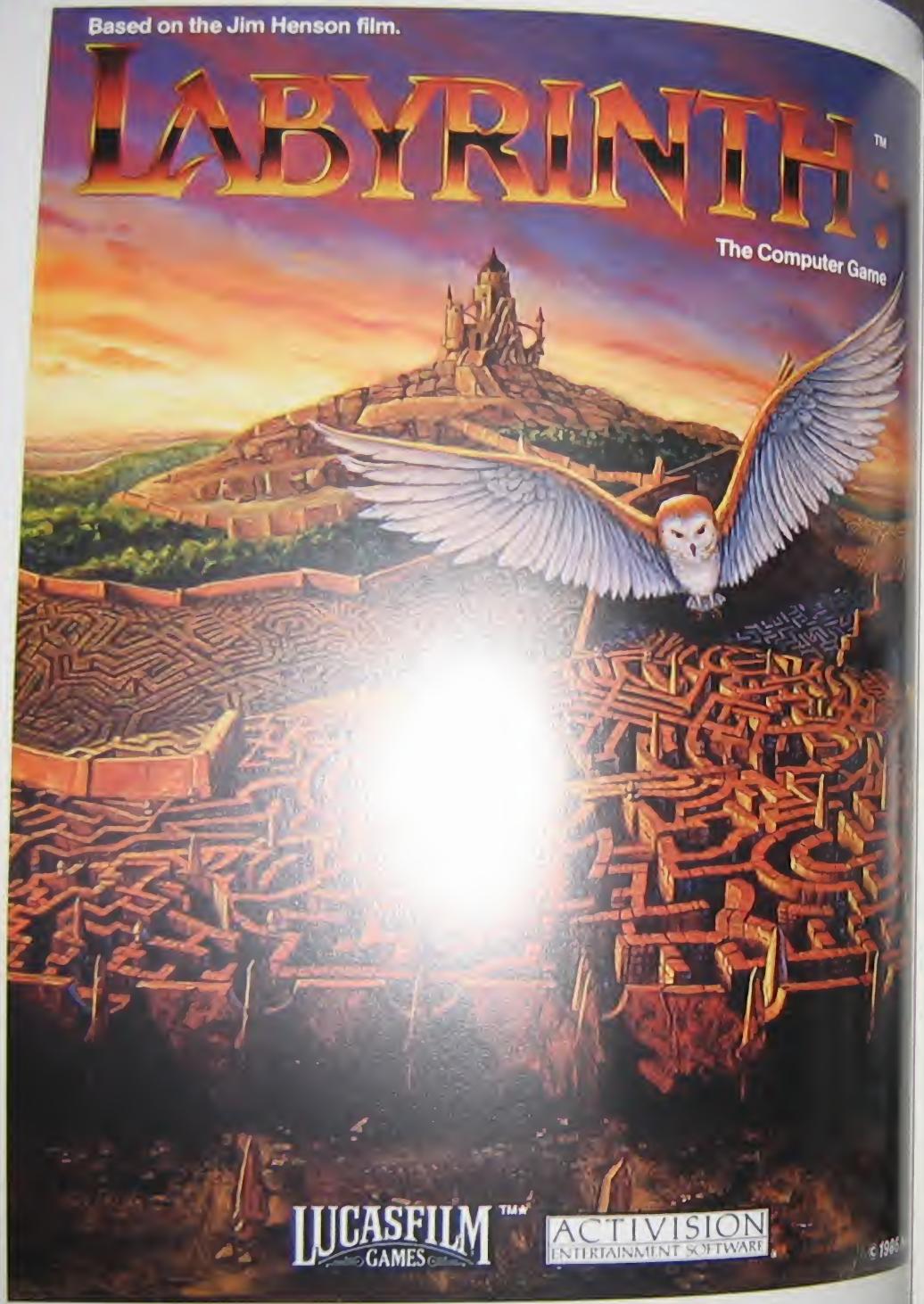


It was hard to pull off," notes Arnold. The result was fairly successful, in large part due to its general accessibility. The game focused more on the new story and characters than an action-maze like *Advent*'s own celebrated novels.

Top Shown are the top 1000 genes on each array. The dimensionality of each array is shown in the bottom left corner.

Above: In 1923 Dr. Ladderington (then a young meteorologist) and his wife, a nurse, were on a vacation in the mountains of the Swiss Alps.

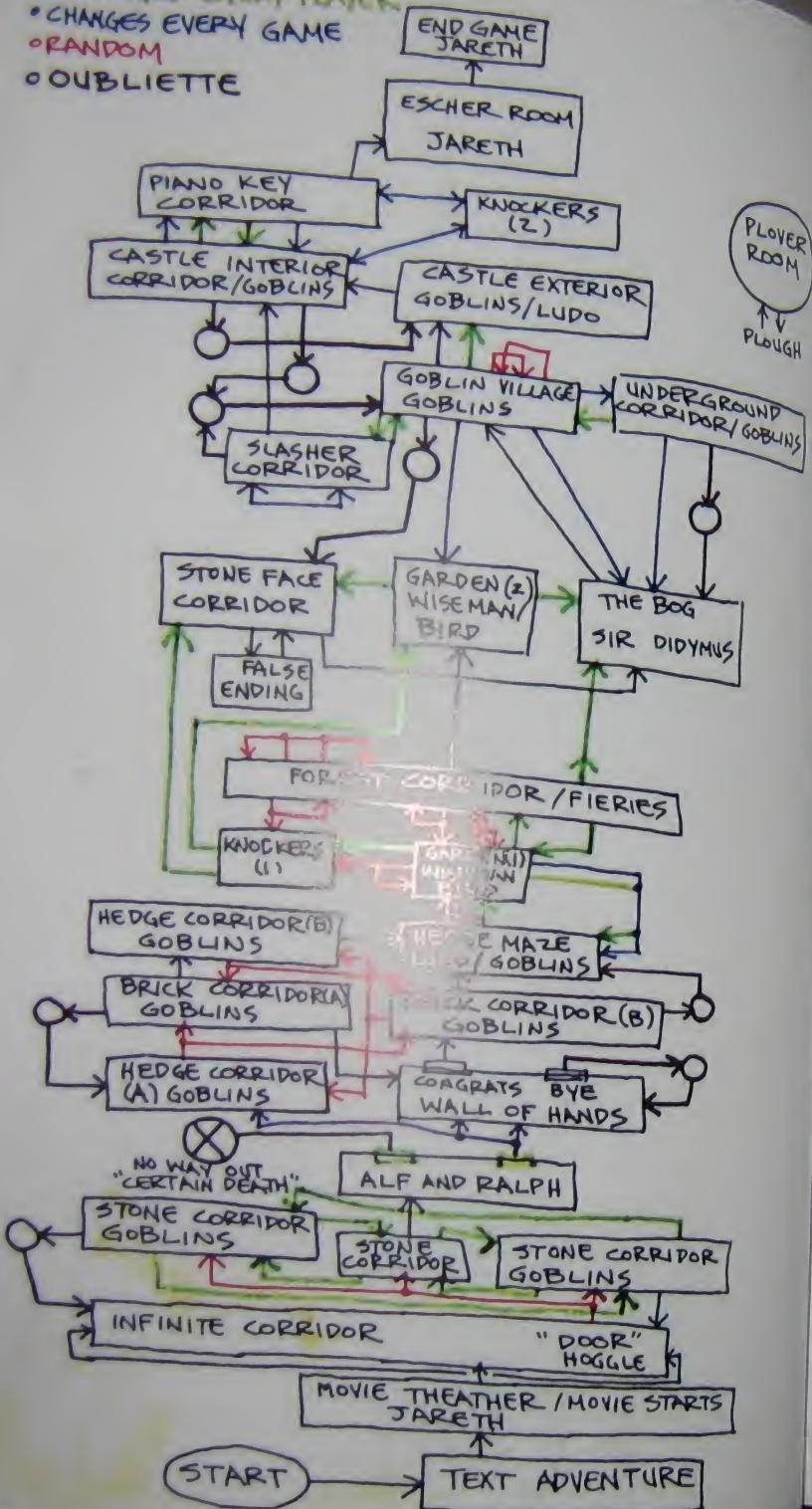
Based on the Jim Henson film.



Opposite: The box art for the 1986 release of *Labyrinth: The Computer Game* (TM) adapted by "Henson Associates Inc."

Left: Storyboard treatment for the character dialogue, as well as scene progression.

- FIXED
- CHANGES EVERY PLAYER
- CHANGES EVERY GAME
- RANDOM
- OUBLIETTE



WHAT IS THIS SCUMM?

In the adventure genre, successful games of the time—such as Infocom's Zork series, Planetfall, and Hitchhiker's Guide to the Galaxy—were completely text-driven; their gameplay device required the player to guess the word that would trigger the required action. Essentially, the player had to guess the game designer's expected response, so if the required command was "Pick up wrench" and you typed "Pick up spanner," you'd be met with an all-too-familiar message of not being understood. That technique was clumsy and unintuitive to Ron Gilbert, who was originally hired as a summer employee with the games group and just never went back to college. Responsible for porting Koronis Rift and The Eidolon from the Atari 800 to the Commodore 64, Gilbert's solution was to focus the player's choices on key action terms such as "Open," "Pull," "Pick up," and "Use." With those words as visible choices to select in the interface, the player could use the mouse to uncover interactive hotspots on the main game screen and choose actions from a more tightly focused menu.

Picking from fewer action options would guarantee a more satisfying response than, "I do not understand." But the developers needed a way to power these streamlined gameplay mechanics. One benefit of Lucasfilm Games' attachment to the bigger Lucasfilm company was access to the Graphics Group's Unix workstations. These high-end computers were used primarily for powering the massive number-crunching required by the movie visual effects of the day. The performance boost afforded the game's programming was significant compared to the time it would have taken on a target Commodore 64 system. Yet, it was also clear to

"Steve [Arnold] came to me after Koronis Rift and said, 'Come up with a hit.'"

—Noah Falstein, designer



Gilbert that without a scripting language, and because he was new to the 6502 programming base, achieving the goals of the project was going to take longer than anyone hoped. Programmer Chip Morningstar (who would later develop the revolutionary Habitat online social multiplayer game) suggested a scripting language, and he offered to write the first version of the compiler. Gilbert now needed a game design concept to use as the test subject for this new technology development. I Was a Teenage Lobot was that game concept, and its futuristic storyline (inspired by the original 1981 movie *Heavy Metal*) involved the gray matter from lobotomized humans being placed in robots to turn them into servants.

The player's role in this scenario was that despite

Above: The SCUMM (Scripting Utility for Maniac Mansion) made its debut in 1987 with the release of *Maniac Mansion*, introducing an intuitive interface.

Opposite: A complex flow chart plots out the game program for *Labyrinth*, including the text adventure beginning, an idea credited to a brainstorming session with legendary author Douglas Adams.

having your brain removed and placed in a "show-bot," you weren't actually lobotomized. With this awareness, and your immobile carcass lying somewhere on the space station, your goal was to reunite brain with body.

The scripting language was then applied to a new working game concept, resulting in a game engine that enjoys a glorious legacy. Even the famous acronym - SCripting Utility for Maniac Mansion - illustrates the depth of creativity coursing through the game designers in this tight-knit team. "I do think that one of the reasons the SCUMM system is still talked about today is its name," says Gilbert. But this humorous label was only part of the behind-the-scenes fun devised to turn dull but functional programming situations into a clearly defined language. Additional tools developed and plugged into SCUMM earned their own monikers, cleverly themed around - of all things - bodily fluids. That explains Mmucus, Flem, SPUTM, Byle, and even Spit. Not only did the names have to involve sores, but it helped if they were misspelled, too. This simply followed the enterprising naming conventions at work inside Lucasfilm Games. All the computers, for instance, were named after planets in *Star Wars*; Gilbert wrote *Maniac Mansion* on Kessel.

Acronym Translation

SCUMM

The entire scripting language and engine.

MMUCUS

Related to the art-compression technique.

FLEM

Used to tag the background art to (which would show an option to touch, pick up, and so on—as you moved the cursor over that area).

SPUTM

The runtime engine of SCUMM based on the SCUMM Presentation Utility.

BYLE

The animation tool used to convert the original Sun workstation to work on PCs.

SPIT

Used to manage the font usage for on-screen text.



MANIAC MANSION

Ron Gilbert and Gary Winnick had generated the idea for *Maniac Mansion* (1987) through a joint affection for B-movie horror tales, a suitably quirky sense of humor, and numerous brainstorming sessions. Gilbert was the gamer, Winnick the artist. Gilbert was frustrated with text-driven adventure gaming, and was interested in a more graphical adventure; Winnick drew a picture of a spooky mansion with a sign that read, "Trespassers will be horribly mutilated." Gilbert thought it would be funny to parody the old standby of the horror genre: teenage kids entering somewhere that they shouldn't, being split up, and getting killed off one by one. As they batted around ideas, Winnick developed a playable paper version of the game as a proof of concept. Though neither designer had previous game-design credits under his belt, early trials and experiments suggested the project was worth the time investment, and general manager Steve Arnold gave them the green light.

Under the existing retail-distribution agreement, Gilbert, Winnick, and Arnold presented the game to Electronic Arts. As Winnick tells it: "Their upper management's reaction was that an adventure game in a comedy-horror genre wouldn't sell. Since EA was our funding partner and distributor, that pretty much left the project without a home." But Arnold showed faith in his designers and decided to self-fund development - making Lucasfilm Games a publisher, responsible for distributing the title to retailers.

His trust in his team and their concept was warranted, as *Maniac Mansion* introduced several fresh ideas to the adventure genre. It spawned the terminology "point-and-click" because the control mechanism had you click on the scene background



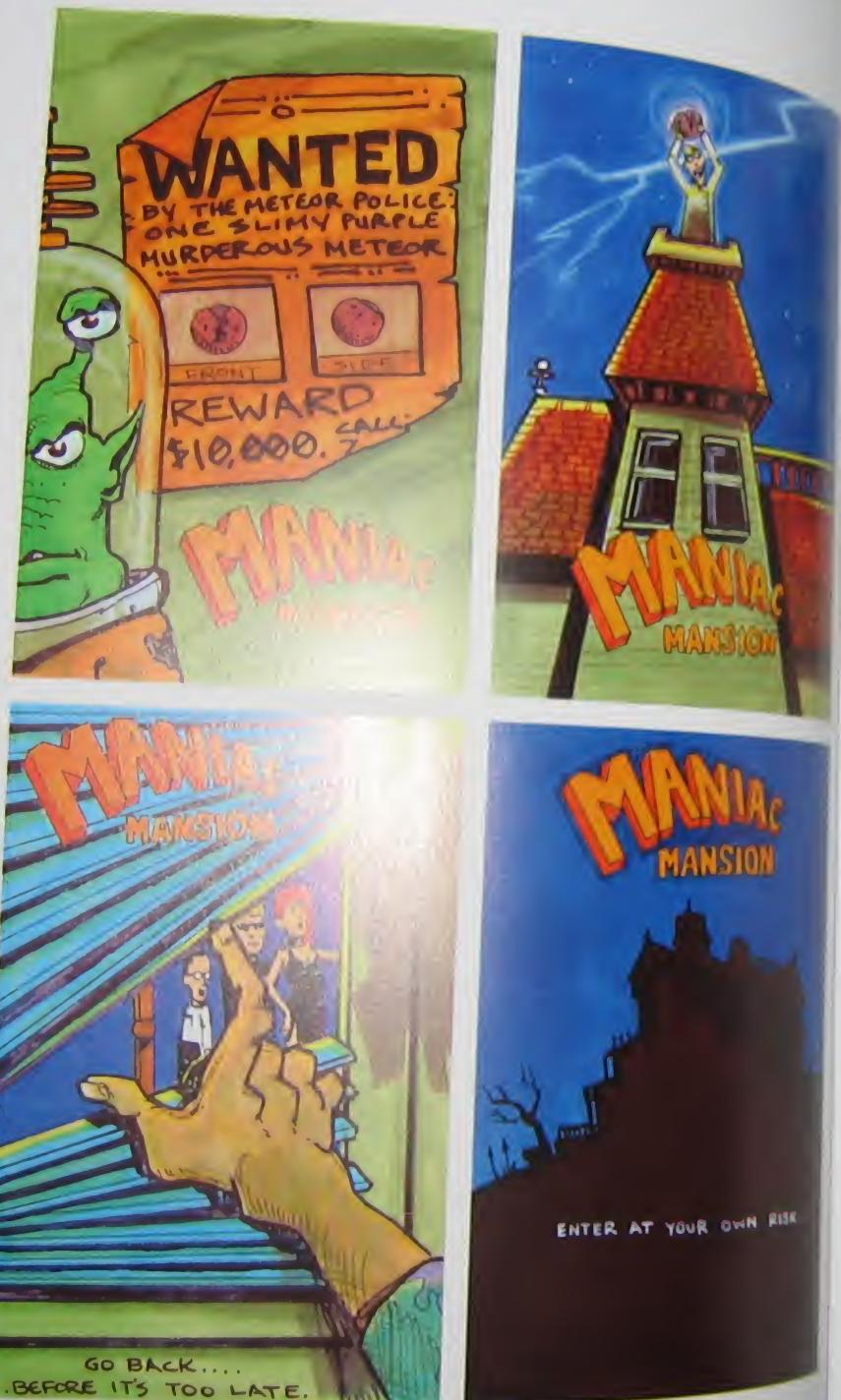
and the pre-set action words using the mouse. It also involved three different characters, of which gamers could select at the start to have each playthrough unique. To the delight of critics, *Maniac* was packed with humorous situations that many moments would later be referenced by fans in other SCUMM adventures.

Lucasfilm Games' next project was *Zak McKracken and the Alien Mindbenders* (1988). The game revolved around a tabloid reporter (the titular Zak) who makes up stories about alien sightings and other fanciful events... and then learns that these stories are actually true. In the aftermath of this shocking discovery, players controlled four characters in a quest to stop aliens from "dumbfounding the public."

Because this second game was designed by David Fox and not Ron Gilbert, it required some fundamental tweaks to work with the SCUMM engine. It took Fox just nine months to complete the game, but he often worked until midnight and beyond to



Below: "The original *Maniac Mansion* (1987) was one of the first graphical adventures to use a mouse. Top: *Maniac Mansion* also introduced the 'point-and-click' control mechanism.



Above: Box cover for Zak McKrucklin (1988), which proved that the SCUMM engine could be adapted quickly to run around with educational experiences.

Left, dimensions of several Lucasfilm Games' releases were made for Fujitsu's FM Towns system in Japan, including *Zak McKracken and the Alien Mindbenders*.

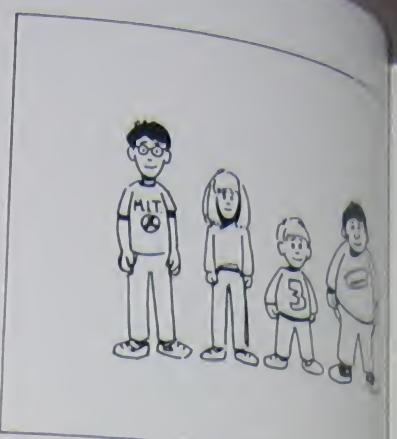
Below: Screenselect from *Zax*.
McKracken's New graphics and
platforms provided variety, but the
control system remained familiar
and effective for gamete trying
out theme adventures.

Wolfe Law with Games (2003) (cont.)
- many of the characters their early glories were a bit
- sentimental, as evident in *Zak* M. Kackay's mobile
- dedicated to Mason Monroe. A character in *Ram*
- didn't seem like me any more, though in *Zak*, a sort of gay
- Mason lifestyle - for use with characters only -
- were the wives and girlfriends of the team - who
- tended to be the more characters inhabiting these
- characters. Leslie was forced out by a girlfriend
- who often changed her hair color. Thus, in *Zak*,
- she has a different color each time she removes
- her spouse's hair.

Among to broaden the reach for these game properties, a *Maniac Mansion* TV series was produced at Troma and aired on The Family Channel in the United States between 1990 and 1991. While the show ultimately bore little resemblance to the game and irritated the game's designers only sparingly, it used the core premise effectively. Ron Gilbert considered it pretty funny, despite its significant evolution from the source material. Meanwhile, *Maniac Mansion* was successful enough to be ported to the Nintendo Entertainment System—though in the process, the developers had to cut some of the more adult language and situations for the family-focused system.

Across platforms and through the coming years, as game technology progressed at an astonishing rate, the SCUMM engine would remain flexible enough to be a stable adventure-game platform right up to the beginning of the true 3-D era. The system's future success and multiple uses, however, weren't anticipated during these early days. "I just needed a quicker way to make *Monkey Island*," says Colucci.





Testing New Waters

While game development continued apace, the ongoing push for Lucasfilm Games to explore new technologies and business opportunities resulted in several intriguing investments that collectively illustrate the innovation pursued during these early years. Around 1987, Hal Barwood—longtime project leader at Lucasfilm Games and later at LucasArts—was brought to Skywalker Ranch to preview a new technology presented by a budding independent game studio called Innovative Productions. The hedging developer was working on a Hasbro VHS tape-based game system, code-named NEMO. Their premise was to take a regular VCR tape and divide the signal into four channels. Using a decoder that would be attached to a VCR, the game would last as long as the tape. To make it interactive, the player would jump around the movie-like film scenes on the tape based on selected options. Of course, this process involved fast-forwarding and rewinding the tape, but it hinted at bringing some of the gameplay mechanism of the popular Dragon's Lair 3-D arcade game into the home.

The concept was interesting to Barwood given his movie background—he co-wrote the screenplay to *The Sugarland Express* (1974), contributed to *Close Encounters of the Third Kind* (1977), and produced the fantasy movie *Dragonflight* (1981)—but with many other projects on the go, Lucasfilm moved to pass. (The concept was eventually picked up by another publisher, Digital Pictures, whose first release was *Night Trap* (1992) on the Sega CD.)

In 1985, a company called Trintec (which would later evolve into the enter-tainment provider Prodigy) approached Lucasfilm Games about designing a "million-player Star Wars" game. They believed Star Wars Galaxies (2003) would realize that such concepts as the idea was floating around, aiming to run impossibly primitive technology. "A handful of us went up to the Sylmaris Motel Inn and Spa for a couple of days of brainstorms, gourmet meals, discussions at the poolside, a movie of *One in Your Room Each Evening*," recalls designer Noah Falstein. "It was the most hideously game-design work I've ever had the pleasure of doing." As Trintec began to hit financial trouble, and the monumental scope and ambition of the project became clear, they realized that this particular design concept was way ahead of its time.

Another fascinating aside from the core games-development business came about in 1990 when a group was spun off from Lucasfilm Games to investigate opportunities in real-world location-based gaming. Perceived as possible movie theaters or bowling alleys of the future, the multiplex-linked systems would take up a huge footprint but deliver the most immersive game experience possible by completely encapsulating each player in a cocoon of technology. An early proponent of this form of gaming was Jordan Weisman, creator of the BattleTech location game that put you inside the massive metal frame of a machine gun- and rocket-wielding mechanized warrior. Steve Arnold, who'd been Weisman's summer-camp counselor years earlier, loved the idea of entering this market, so David Fox moved from director of operations to head what was termed "the Mirage project." He dusted off an old game-design concept from 1982, applied the *Star Wars* motif of flying an X-wing through craggy mountains, and set about building a pod composed of two seats and three projectors. The group partnered with the Hughes Aircraft Corporation to build the prototype.

Using mirrors, an image generator, a rack of PCs, MIDI equipment for sound, and an Amiga computer for the heads-down display and input, the station generated a vast landscape in which players could fly around for hours. It was also networked with other stations. Author Orson Scott Card consulted on some game-design work, and wrote a five-page scenario to play out in the simulator.

Unfortunately, for Fox, Steve Arnold had moved on by the time the project entered its final stages, so its champion within the hierarchy of senior management was gone. The cost to build out this business, and the machines themselves, was proving to be prohibitively high: each image generator alone cost an estimated \$500,000. After trying (and failing) to market it, Lucasfilm Games sold the rights to Hughes and closed the Mirage division.



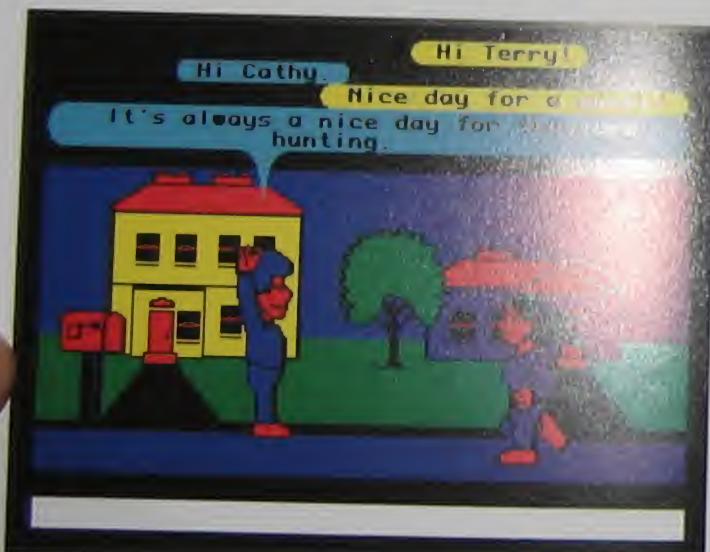
Above: From left: George Lucas, Robert Daws, Walter Murch, Hal Barwood, and Matthew Robbins.

Opposite: Concept sketches of the characters and situations in *Maniac Mansion*, by Gary Winnick.

"We knew it was going to be hard, but we knew that connected storytelling was fundamentally where games should and would go."

RESEARCH & DEVELOPMENT: HABITAT

A couple of years into the games group's existence, a sense remained that their work was all a big experiment. Indeed, the entire Computer Division could be seen as an experiment, as it researched high-end digital-editing technology for implementation in all aspects of filmmaking. Still, the charter early on from Lucas was to be innovative, and that meant unique research projects within Lucasfilm Games.



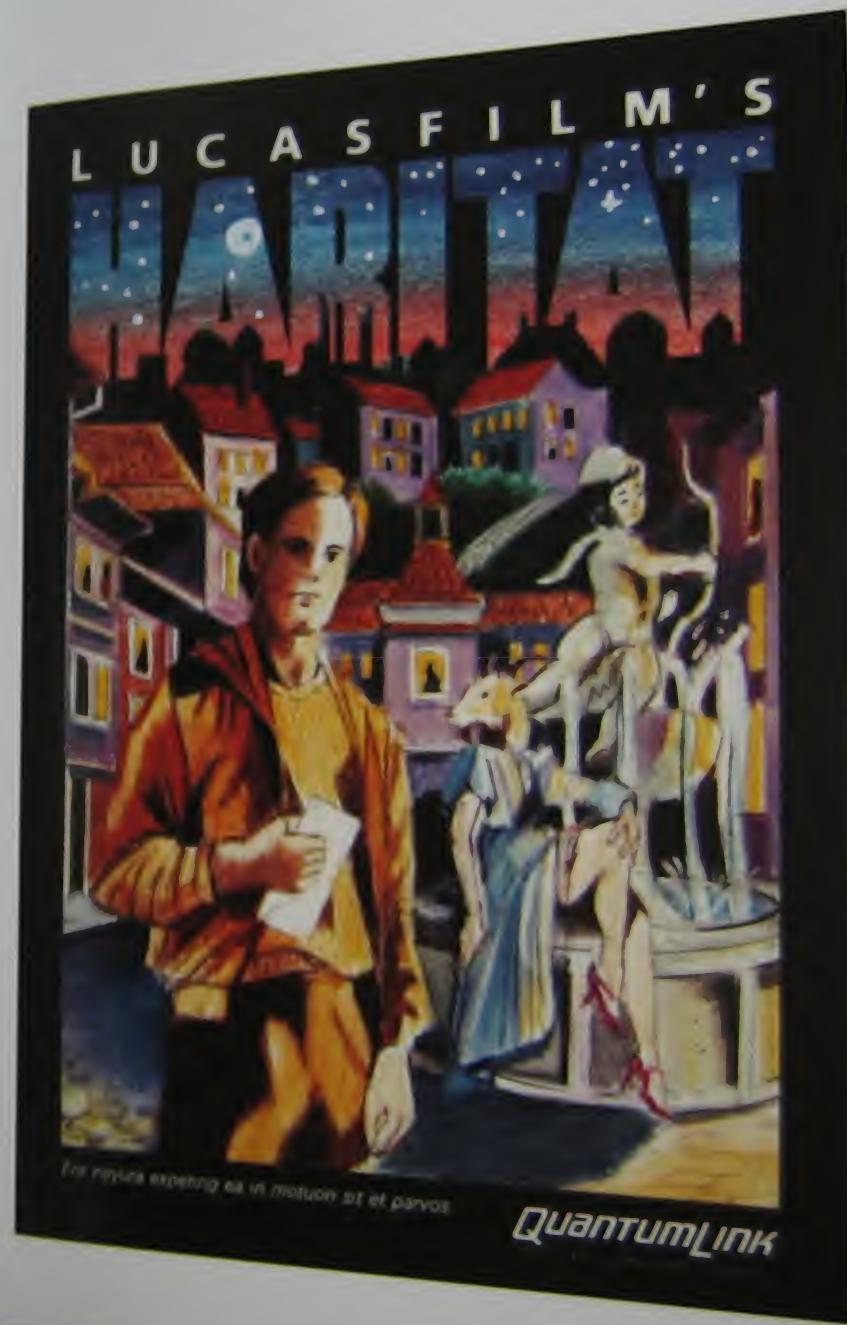
Above: Habitat enabled modems-equipped Commodore 64 users to talk to each other in a virtual world.

Habitat (known as "MicroCom" until trademark issues prompted a name change) earlier iterations were "Lucasfilm Universe," "Lucasfilm Games Alliance," and "Lucasnet") stands out today as an astutely forward-thinking project. It was philosophically in tune with what gamers wanted, and was technologically about ten years ahead of its time. The Commodore 64 computer had a foothold in the U.S. home-computer

market, and a 300-band modem was a gizmo that had captured the attention of enthusiasts. To support the launch of Habitat, ensuring that content was available, Lucas had invested in an online company called Computer Services. Commodore bought Lucasfilm Games in a search for revenue through the online company's QuantumLink service. Customers were paying online providers such as CompuServe \$12 a month for a fledgling network (and even \$20.00 hourly) during peak daytime hours. Q-Link was undeterred that price to around \$100 a month, leaving out spare, unused server space during off-times. Through this partnership, a new idea to produce an online game, and later creating the front-end game Habitat for Commodore 64, and Q-Link provided the serverside software.

"We knew it was going to be hard, but we knew that connected storytelling was fundamentally where games should and would go," another team member said.

Designer Noah Falstein had been one of the team engineers. Clay Mundie, game concept. To capture the interest of potential customers, they settled on a medieval setting. Development began at the end of 1985, with the team creating a world within a virtual world where each player had an "avatar," a word defining a player's representation (and still used today). These characters interact with other players, and within an online world composed of 20,000 individual screens (coupled to 10 additional regions). Even without knowing this brave new frontier of



Left: Habitat's concept of an online community was way ahead of its time, and it was never commercially released in the United States. This piece of concept art was intended for Habitat's box cover, with the QuantumLink logo and the QuantumLink logo, circa 1985 (unpublished).

The pioneering work on Habitat by Chip Morningstar and Randy Farmer, the two programming gurus who had built the system infrastructure, earned them a First Penguin Award at the Game Developers Choice Awards in 2001.

Right: Reproduction of Habitat's title screen. A version of Habitat was licensed to Fujitsu to release for its FM Towns system.



wasn't easy—its concept simply had to be developed to this point, and so artist Gary Winnick created a storyboard to illustrate the idea in pictures.

Despite the apparent advantage of not having to program artificial intelligence for in-game characters, given that all the players were real people, creating rules for player interactions required the developers to broach subjects never before considered in game design. Remarked Chip Morningstar in a long treatise on Habitat's creative process: "A special circle of living Hell awaits the implementers of systems involving that most important category of autonomous computational agents: groups of interacting human beings."

The team needed to ask innumerable questions about what was allowed and what rules or laws governed player interaction: for example, if you permitted

an action like taking an object from what happens when one character takes runs or logs off? To find workable error, and incredibly creative thinking required a significant beta test among

The game debuted internally at Lucas Games at a company meeting in early 1989. Chip Morningstar, Randy Farmer, and Gary Winnick creating in-game avatars that looked like George Lucas and Steve Arnold. One of the first beta versions of the game was made available, and they were quickly downloaded by Q-Link users. Chat rooms were the dominant source over these 300-baud modems. RabbitJack's Casino program proved to be the 50,000 Q-Link subscribers. Some 100,000 of RabbitJack's disks had been distributed to the Q-Link users, and players of that game accounted for 3 percent of the total system usage. At release, Habitat's 500-disk distribution was limited to those who gobbled enough logged time to account for 1 percent of the entire system usage. Q-Link's modems spoke the language of early online adopters, and this relatively small group was spending a vast amount of time interacting with the world and its people. Like Habitat was a huge hit-in-the-making, in the fall of 1988 the beta was taken to a night club for a launch party as Lucas and Morningstar prepared to revolutionize the Q-Link

But a problem lurked. Essentially, if 500 users were allowed to play Habitat that they required enough to eat up 1 percent of the available system bandwidth, a full-run production of the game would attract RabbitJack's Casino number of

CHAPTER TWO THE FASHIONABLE AVATAR

"Hi, brother," Wile E. Coyote whispered to Prancer. "There comes an Julian plane again." Prancer looked over to see the drowsy-looking bartender Bertrand standing up in the latest *Day De La Muerte* style. "Who does he think he is?" Wile E. Coyote heard.

"The (hiker's) gift to Avatars," Prancer replied, staring in her eyes.

"The (hiker's) gift to Avatars," Prancer replied, staring in her eyes. "One of the really fun things you can do when you enter Habitat is to customize your appearance. What you get to help you in this task is a customization program allowing you to make the kind of alterations that would make a Beverly Hills plastic surgeon cry. You'll automatically be put into the customization program the first time you enter Habitat. Just follow the instructions it gives you and you'll do fine."

Customizing works a little differently. Avatars never go around naked. In fact, their clothes are part of their bodies. It's easy to change your Avatar's appearance though: just use a nearby body of apparel's body editor. These can be purchased down at the General Store, or you can borrow one from a friend. While you are holding a apparel, you can change the coloration of different parts of your body by pointing at them with the cursor and choosing the DO



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You can also change your Avatar's head. New heads can be gotten at a Head Shop, though they are often quite expensive—and the more exotic a head is, the more it will cost you. You can remove your Avatar's old head simply by GETting it into your hands, just point at the head and choose GET. Then PUT your old head down somewhere and GET the new one. Once you are holding the new head in your hands, you can PUT it on your shoulders by pointing at yourself and choosing PUT.

Although you can remove your head at any time, it is considered extremely tacky to wander around the world headless. The sight of a headless Avtar can be quite upsetting to some of the younger, more liberal citizens of Habitat.

Some common styles of appearance in Habitat appear below:



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commercial release in the United States, Lucasfilm Games was able to recoup most of its development costs through these side deals. As for Quantum Computer Services, in 1989—just a year after working toward a launch for Habitat—the company changed its name to America Online.

The pioneering work on Habitat by Chip Morningstar and Randy Farmer, the two programming gurus who had built the system infrastructure, earned them a First Penguin Award at the Game Developers Choice Awards in 2001. Conceived by co-worker Noah Falstein, the award has been given annually since 2001 "to recognize the courage and bravery of a developer who tested the proverbial waters, uncertain of success or failure. A 'First Penguin' served as a lesson, and inspiration, to the rest of the community over the years."



Above: The Bullblazer concept was revised and graphically upgraded in 1990 for release on PC and Amiga as Masterblazer by Rainbow Arts.

Top: A page from *The Official Avatar Handbook: A Comprehensive Guide to Understanding Habitat* from Lucasfilm Games and Quantum, provided to beta testers in 1987.



THE SECOND MOVIE GAME

Even in 1988, a game would take about 12 months to develop, but project leader Neal Falsen had just eight months before the third *Indiana Jones* movie arrived in theaters. Uncertain that his team could complete the game in time, he drafted designer Ron Gilbert and David Fox to help with Gilbert putting ideas for his own *Monkey Island* game on hold. Using the SCUMM engine, Gilbert's group designed, produced, and half the game in three weeks, within one month.

Indiana Jones and the Last Crusade offered a unique opportunity, and Falsen seized it. "The story was that to this point, no one had ever tried to address Indiana Jones in a game," says Falsen. "Seven Spielberg movies had come out, and the ambitions were probably to make sure none of them were broken. So we had to do it in the time frame."

Giving players the ability to fly a biplane and traverse moving platforms was a challenge. "A number of design challenges required us to come up with the notion of Indy being killed in the game, although Gilbert's own general design philosophy was that the player should never perish. The action quotient

Above: Box art for the SCUMM adventure *Indiana Jones and the Last Crusade: The Graphic Adventure* and *Indiana Jones and the Last Crusade: The Action Game* (both 1989).

Left: Disk for *Indiana Jones and the Last Crusade: The Action Game*.

Bottom: These screenshots show how the game played out scenes that audiences had witnessed in the movies, but in a fresh way that resonated with gamers and movie fans.



ultimately resulted in it being popular. So, as with *Labyrinth*, the trick was to make it compelling and the challenge enticing for those who had seen the movie. Having those feelings and a variety of paths to get there, we were able to *Indiana Jones and the Last Crusade* as one of the best action-adventure games. The implementation of the IQ—the Indy Quest scoring system encouraged gamers to find creative solutions to each puzzle. This was the time that the Indy Quest appendage became a game, however. It originally started as the *Indiana Jones and the Last Crusade* game, but it was never released. It was later used in Mindscape's licensed *Indiana Jones and the Last Crusade* (1991) for Commodore 64.

ACTION AND ADVENTURE

The team was able to develop the game well from the shooting script. As a result, you

"In the early days at the Games Division, we were begging to do *Star Wars* and *Indy* games, so it was a thrill to be able to work on [*Indiana Jones and the Last Crusade*]."

—Ron Gilbert, designer

Left: A fake newspaper page featuring Dr. Jones' search for the Holy Grail used as the cover for *Indiana Jones and the Last Crusade: The Action Game's* instruction manual.

The Byzantine Crusader

May 25th, 1938

Weather: Sunny

HOLY GRAIL SEARCH TO CONTINUE!

By Bob Ellis

Dr. Henry Jones was back in Kildare last night after speaking to this reporter about his continued search for the Holy Grail treasures. Some information is believed to have been found by Dr. Jones on his trip to Europe.

There was a somewhat mysterious note Dr. Jones received from his hosts recently after many years of research into the real location of the sacred treasury.

It was promised, Dr. True, that two markers had been left to mark the site.

The last time Dr. Jones



GRAIL

It does appear in the game that were cut from the comic during the editing process. One example is an unscripted scene with the radio operator in the cockpit. We went to a couple of advanced screenings early on in the process mostly for audience testing to make sure the task was okay," Gilberts claims. "He was a bit worried the audience's art design. But we had quite a bit of controversy, which was always the case in the Games Division."

Players who dug around inside the game box were rewarded with a facsimile of Henry Jones Sr.'s Holy Grail Diary and found clues to solving the game's final puzzle. Though this in-box addition was dimmed down for later releases, it helped illustrate the high-picture consciousness that would ensure that the *Indiana Jones* adventure game stood proudly alongside its novel source material.



Above: Box art for Strike Fleet (1987), Battlehawks 1942 (1988), and Their Finest Hour: The Battle of Britain (1989).

Right (top and bottom): Title screen and aerial combat for Larry Holland's Battlehawks 1942

Larry Holland says he once received an unexpected phone call at his desk inside the Games Division. The caller was Steven Spielberg, who, after chatting for a moment, handed the phone to an assistant who presented the real purpose of the call: to find out the best computer setup on which to play Battlehawks. That PC system would then be installed in all of Spielberg's houses so that he could play the game wherever he was.



Simulations—Round Two

After interviewing for a job on the *Labyrinth* game, programmer Larry Holland was eventually brought on with converting PHM Pegasus from the Apple II to the Commodore 64. By the time PHM Pegasus was released to retailers, a more ambitious sequel was planned with Holland acting as software engineer and designer for a game that would become *Strike Fleet* (1987). The simulation was still some spiritual distance from the adventures that were being established at the time within the company. The online experimental project *Hammer* with the SCUMM-engine adventure games were dominating most Lucasfilm Games' efforts, so the simulations formed a niche within the organization.

After a proposed sequel to *Strike Fleet* was rejected by the original game's publisher, Electronic Arts, Larry Holland pitched to Lucasfilm Games a simulation called *Air Wing*. Inspired by his research into aerial combat in the Pacific Theater, Holland produced a tech demo for a design that eventually became *Battlehawks 1942* (1988). To produce the in-game representations of the real-world planes, the team bought and painted models, mounted them on special rigs, and photographed them. From those shots they created images on acetate overlays that they placed over the artists' monitors. Using the imaging paint program of the time, the artists then traced and colored the acetate outlines to create the digital bitmaps used in the game. The five-person development team began work in March 1988, and the game appeared on store shelves in September of the same year.



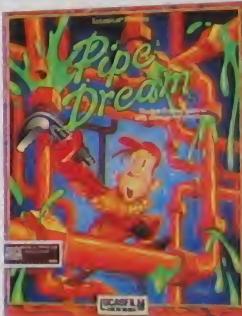
Their Finest Hour: The Battle of Britain (1989) pushed the simulation genre still further with creative editor. A contest—*Their Finest Mission*—had given the team their own scenarios with the chance to win a trip to the UK. Some of the missions created through the contest were bundled together on a retail disk, providing unique game-expansion opportunities. The team also found that adding extra planes provided expanded value to the audience—and therein discovered a new revenue stream (Robin Parker, an employee in the marketing department, worked on the packaging for the expansion disk). Parker, with some background research on the World War II era, ultimately became Larry Holland's wife.



Pipe Dream

Alongside their adventure games and simulations, the Games Division continued to pursue what head of development (and later acting general manager) Kelly Flock referred to as "market opportunities." The materials costs of transitioning from games supplied on one or two floppy disks to games on multiple floppies or CD ROMs had a

significant financial impact on a company of Lucasfilm's size. Opportunistic game development like *Pipe Dream* (1989) enabled the studio to find a niche with relatively cheap-to-produce concepts such as puzzle games. If they proved to be commercially successful, these properties could be built into a franchise.



Above: Box art for Pipe Dream (1989).

Left: Rough color pass for Pipe Dream's packaging, by Steve Purcell. He designed the plumber character, named Chuck.



CHAPTER THREE

BIRTH OF THE CLASSICS

As Lucasfilm Games ramped up its operations, it sought additional talent, learning the proprietary SCUMM engine. The language involved graduating from SCUMM-U—the training university in which new designers enrolled to become familiar with the toolset. Students at SCUMM-U were labeled “Scummlets.”

Full Throttle designer Tim Schafer and Day of the Tentacle co-creator Dave Grossman were two of its first students and graduates. (The dubious honor of being referred to as a Scummlet was dropped only after becoming a Project Leader.) The initial training period lasted a month, after which each Scummlet was required to create a mini-game using the tools they had learned, and then swap games to fix problems they discovered in the scripting system.

“It was probably the greatest place to work,” says of this time. “No one in flavor has come a better time than being a Scummlet at Lucas Ranch in 1989. We were very proud of being a ‘Scummlet’ and didn’t even think of it as a job.”

Working with SCUMM still presented challenges, though. Besides being functional, it was, as Grossman describes, “a really astonishingly useful tool for making games.”

At the time, none of the designers or programmers using the SCUMM engine were sure the gameplay methods crafted using the engine would establish rules and mechanics for a genre that competitors would try to copy. “Our goal was to do something

designer Ron Gilbert recalls. “We still had pressure from Lucasfilm not to waste money—we were far from an entry tower—but a vibe ran through the company that we always had to be the best.”

In that spirit, development began on *The Secret of Monkey Island* (1990). For as long as history records its greatest moments in PC gaming, a special place will be reserved for Gilbert’s seminal adventure game. Using a mutating SCUMM engine—plus the design and writing input of Schafer and Grossman—the original *Monkey Island* earned rave reviews upon its initial launch on the Amiga. Subsequent PC releases expanded the game’s limited 16-color palette to an enhanced 256 colors, and then allowed full audio integration when *Secret* was released on CD-ROM. All the while, the game’s reputation as a cult classic grew.

“The pirate theme came from one place: I hated fantasy.”

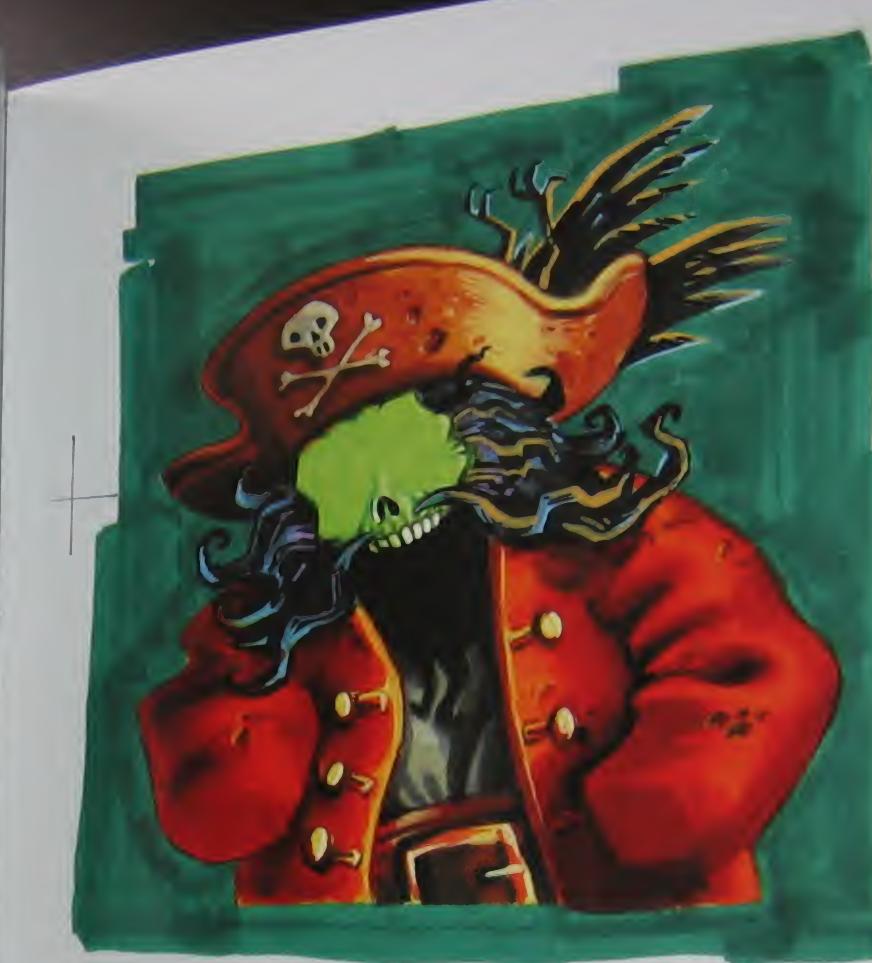
—Ron Gilbert

Writing consistently funny, high-quality comedy is supremely challenging, but the talented team excelled it with distinction. The adventure story, its style, and its memorable situations immediately struck a chord with gamers. Wannabe-pirate Guybrush Threepwood stumbled into the gaming spotlight as the hero of *Monkey Island*, ingratiating his carefully crafted demeanor into the consciousness of every player who followed his exploits.

“The pirate theme came from one place: I hated fantasy,” explains Gilbert.



Above: Box art for the adventure game that became a legend, *The Secret of Monkey Island* (1990). Top: Watercolor for a *Secret of Monkey Island* activity poster by Steve Purcell.



Fantasy had emerged as a popular genre for gamers. Tabletop role-playing games such as TSR's *Dungeons & Dragons*, Chaosium's *Runequest*, and Iron Crown Enterprises' *Middle-Earth Roleplaying Game* were popular with a demographic that was shifting its attention from pen-and-paper to computer. For potential newcomers to a game setting, fantasy was also fairly easy to explain; little background reading is required to know that orcs are green-skinned bad guys, elves are pointy-eared high-minded guys, and dwarves are bearded miners. Space-based settings present the challenge of having to explain the fiction and technology at work in the gameworld. But the pirate theme had the potential to attract a number of fantasy fans who wanted something a little different.

"Once that idea hit me, the Pirates [of the Caribbean] ride at Disneyland was a natural since I loved it so much," recalls Gilbert. "I also read a book called *On Stranger Tides* [a pirate fantasy novel written by Tim Powers, published in 1988] that solidified much of my thinking about the story."

Guybrush's quest to become a pirate, his meeting with love interest Elaine, and the conflict that emerges with ghost pirate LeChuck are all part of PC-gaming lore. Secrets, humor, puzzles, and lovable characterizations were popular among players, and numerous Web sites delved deep into the origins of every design decision. With the title consistently appearing on Best of PC Gaming lists, its principal designers are frequently asked "What is the Secret of Monkey Island?" — a question they refuse to answer for fear of the monkeys.

Above: Monkey Island series villain LeChuck has appeared in many forms, including ghost, zombie, demon, and stone giant. These drawings of LeChuck from *Monkey Island 2: LeChuck's Revenge* (1991) are an example of how artists Sean Turner and Peter Chan layered variations of LeChuck's eyes on top of a basic image to explore his emotional range.

Opposite: Pencil sketch for *The Secret of Monkey Island* (1990) cover painting, featuring Elaine Marley (left) and Guybrush Threepwood (right, with sword), by Steve Purcell.

Famed science-fiction author Orson Scott Card was involved in the writing of *The Secret of Monkey Island*, creating the dialogue for most of the insults lunging to and fro in the sword fights.



Top: *Monkey Island 2: LeChuck's Revenge* (1991) with released just a year after the original game, and built on the growing legend of Guybrush Threepwood.

Above: Screenshot of *Monkey Island 2: LeChuck's Revenge* showing Guybrush Threepwood in a starting position.



The "Secret" of Monkey Island

Ron Gilbert's favorite joke in *The Secret of Monkey Island* is the Stump Puzzle. Look at a tree stump and asked to insert disk #22. Of course, there is no disk #22, so tech support was driven crazy by calls from gamers complaining that the tree stump area simply did not exist, and spent hours at the puzzle for what amounted to a Future Monkey Island game, although it was removed from the CD.

MONKEY ISLAND 2: LECHUCK'S REVENGE

In just a year the team was able to get a sequel, *Monkey Island 2: LeChuck's Revenge* (1991), onto store shelves. It seems like an almost impossible feat to modern game production teams, but it was common relatively straightforward, even—for the team at Lucasfilm Games (which had become a division under the newly formed LucasArts Entertainment Company in 1990 alongside ILM and others), who were increasingly well-practiced with the SCUMM toolset.

"A graphics adventure was more like puppet theater than a film-quality cinematic extravaganza, and the story and puzzles required far fewer resources to implement," recalls designer Dave Grossman.

The first two *Monkey Island* games were incredibly detailed and creative, yet, from a technology standpoint, they weren't particularly complex. Thus, the developers could quickly test great new ideas for dialogue, situations, or even puzzles right up to within a couple of hours before the game needed to ship. Manpower resources were similarly tight, as the designers worked in small groups—bouncing ideas, puzzle concepts, and story features off each other. As you might imagine, packing the creative talent required to produce games of such quick wit into one small room had benefits... and challenges. "Those sessions often became hilarious enough to be dangerous, with me asthmatically coughing up my own brain from laughing too much," recalls Grossman.

The artists for the project were located on a different floor from the designers, requiring frequent trips to see what they had produced. Though *Monkey Island 2* was slightly larger in scope, the team was about the same size as the original team, with the



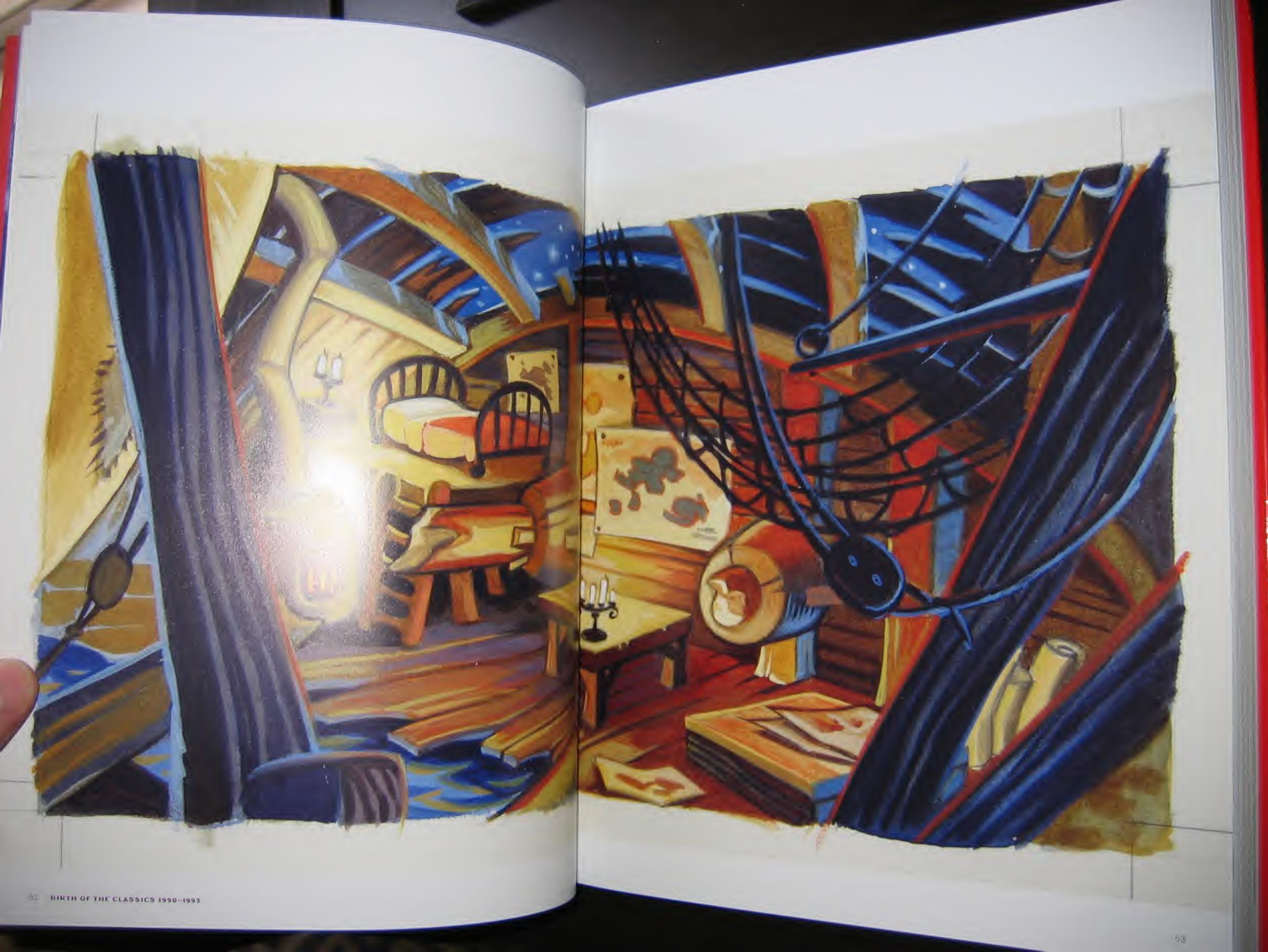
Left: Codewheels for *The Secret of Monkey Island* (top) and *Monkey Island 2* (bottom) revealed codes meant to thwart software piracy.

Dave Grossman claims that he was at Lucasfilm Games (and then LucasArts) longer than Tim Schafer: "I got there a little early on the first day, and the person I was supposed to meet hadn't shown up yet, so I took a stroll around the building, during which time Tim Schafer arrived—it was also his first day. Eighteen years later, we still argue about which of us came to Lucas first. But it was me, by several minutes."

Pages 52–53: A test background painted in gouache, by Steve Purcell, circa 1990. "In *The Secret of Monkey Island*, we started with 16 colors. For *LeChuck's Revenge*, we had all the colors we needed," says Purcell.

addition of one scripter and a couple of artists. The game did introduce a technological change: for the first time, the background art was drawn by hand on paper, then scanned into a computer, rather than being drawn directly on a computer using the available tools. Grossman recalls their scanner costing as much as a car, which meant the scanning of his own photographs to turn into desktop wallpaper had to be done after-hours. This new technology did, however, allow the artists to craft significantly more detailed new scenes that could now be simply merged into the game environment.

(continued on page 54)





Opposite: Box art for the PC release of Monkey Island 2 (1991)

Top, left: Concept art of Phatt Island (by Sean Turner, circa 1990), which appears in Monkey Island 2

Top, right: Pencil sketch of monkey from Monkey Island 2 (artist unknown)

Opposite: Concept art for Monkey Island 2 packaging, by Steve Purcell

Now better-versed with the tools, the team focused on tweaking gameplay and evolving quirky characters. In the sequel, Guybrush turned to recovering the treasure Big Whoop while rekindling the romantic spark with Elaine. Meanwhile, the addition of a new difficulty setting meant that gamers could make it easier to solve the puzzles successfully. An option dubbed "Monkey Island Lite" limited a few choices, but was the first time a company had managed to make an adventure game easier for a more casual audience. The success of the original Monkey Island kept a hardcore gaming audience eager for more challenges, but this new feature made the series less daunting for newcomers. In addition, Monkey Island 2 was the first commercial airing of Michael Land's iMUSE sound engine (see sidebar page 65), which contributed to the game's impressive critical reception. But still nobody knew the secret of Monkey Island.

(continued on page 61)



Tim Schafer's Job Interview

David Fox was director of operations when Tim Schafer applied for a job at Lucasfilm Games. For many years, Schafer's résumé stood out from the pile of papers in front of him. Rather than trot out the usual story of previous jobs and experience, Schafer had drawn a hand-drawn cartoon telling the tail of his being chosen for the job, illustrating just how happy he was to be. Because the company wasn't necessarily looking for game programmers—thanks to SCUMM, the consensus was that these skills were teachable—and creativity were far more valuable commodities.

Tim Schafer recalls the application process. "I applied with a normal résumé at first, but then I blew it off for the interview. David asked if I had played any Lucas games and I said, 'Of course! I love them all.' My favorite was Ballblaster!"

"Ballblaster, eh?" he said

"Yeah, I loved that game!"

"Well, I think you meant to say Ballblaster. Ballblaster was what they called the pirated version."

"Whoops! I had, in fact, pirated the game. And I knew that. And it might have cost me the job. Let that be a lesson to you, kids! Don't pirate games!"

"But still, he said, 'Well, why don't you send me a résumé, and a cover letter describing your work?'"

"I figured I had blown the interview already, so I had nothing to lose. So I made a cover letter on the back of a text adventure, with little graphic sketches. I drew all the graphics on my Atari 800 with a light pen."





Above: Loom delivered impressive graphics alongside its technical innovations.

Right: Sound effects had never been used so prominently in a game as they were in Loom.

Far right: Box art for the Lucasfilm game Loom in Hebrew.



Loom



The continuing spirit of innovation at Lucasfilm Games allowed a new adventure-game property called Loom to enter production for the PC. Though it followed adventure game traditions in delivering its story—a fantasy tale starring Bobbin Threadbare—it used original techniques to solve puzzles. When his fellow members of the Guild of Weavers disappear on his 17th birthday, Bobbin heads off to find them. But rather than collecting items in an inventory and combining them to generate new functions, he has to play musical notes on a staff. These musical puzzles required hearing all the clues and noting the sequences, for which a book was included in the game box.

Also packaged in the box was another first for adventure games. To set up the story of this fantasy world, an audio-tape served as a preamble, letting you listen to the characters introduce the plot and situation before diving into the game's point-and-click format. Sci-fi author Orson Scott Card contributed dialogue for the PC CD-ROM release of Loom, which didn't require the audio cassette,



as there was enough disk space to accommodate the data. While Gary Winnick created most of the game, the Games Division also used art from Lucasfilm's own project, one of the first crossover opportunities between the two Lucasfilm companies.

Though Loom wasn't initially intended to be a trilogy, once it was completed, designers began to consider additional directions for the story. Loom was created for a second game, tentatively titled Loom II, as well as a third game, The Fold, which would have rounded out the series. However, Loom II was innovative and well-received by critics, and it didn't have sufficient numbers to warrant a sequel, and the team moved on to other projects (including Indiana Jones and the Last Crusade, which won an Academy Award for Best Visual Effects). Winnick also crafted the design of the first iteration of The Fold, see page 91.

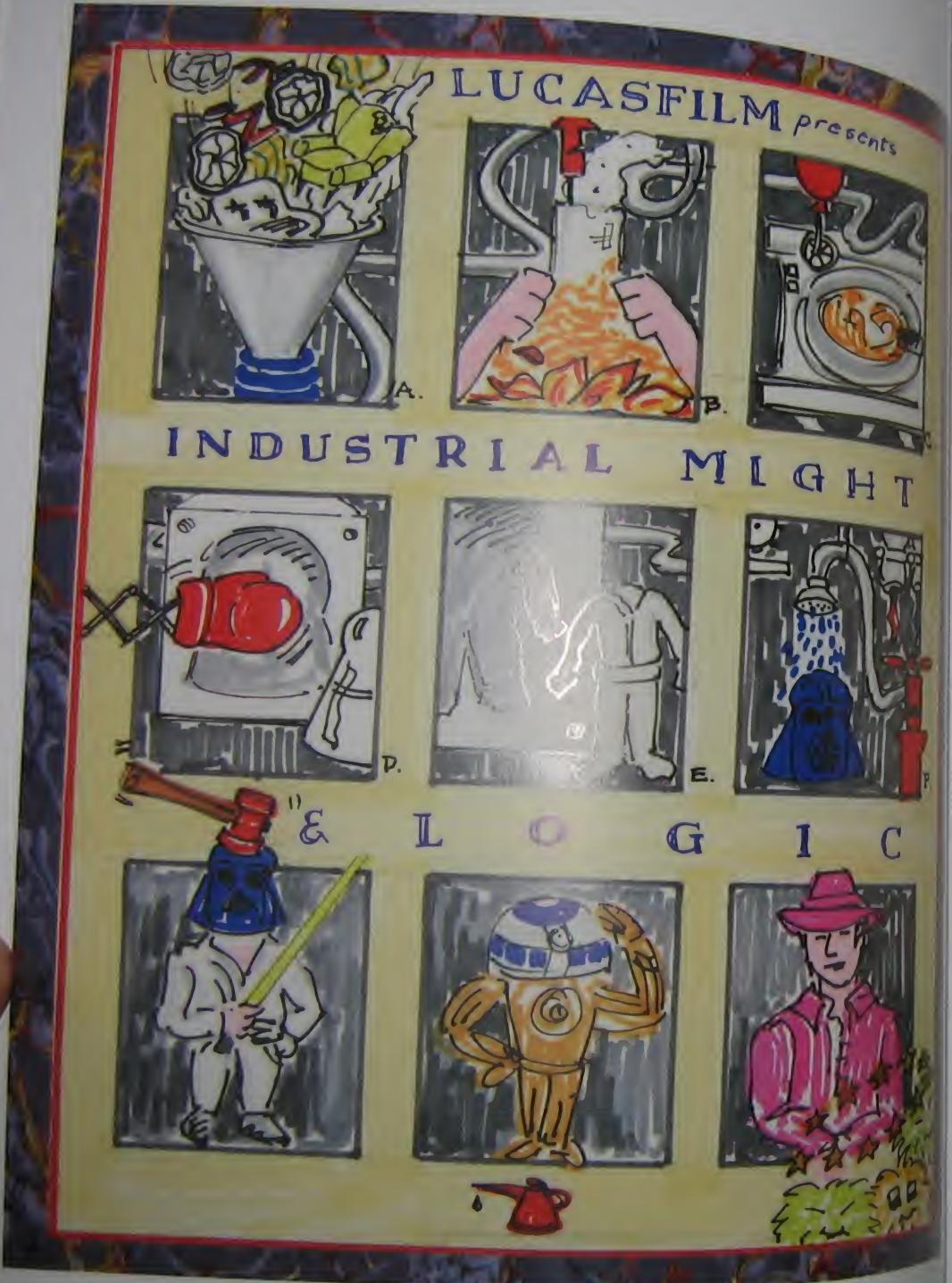
Night Shift

In a remote town in Pine Dream (1989), Night Shift (1990) was a puzzle game, but it illustrated Lucasfilm's clear intent with a puzzle game, but it illustrated Lucasfilm's clear intent to amuse and inspire to play fun at anything, including itself. The premise was to keep the assembly line moving at a

facility called the Beast. This conveyor-belt mechanism is operated by a company called Industrial Might & Logic, which churns out Star Wars and Indiana Jones toys.



Left: Cover art for the Lucasfilm game Loom.



Setting the Table

As an independent contractor, Larry Holland named his business MicroImagery in 1984, and eventually changed it to Peregrine Software. Yet within two weeks of proudly displaying this new name outside on a plaque, the software developer had all his computers stolen during a break-in, as they jammed the door to the office next door and cut a hole in the wall to the Peregrine office. Though it's often thought that Holland was a longtime employee at Lucasfilm Games and LucasArts, he always maintained his own company and produced all his work as an independent contractor.

One of his proudest achievements, on the heels of *Strike Fleet* and *Battlehawk 1942*, was *Secret Weapons of the Luftwaffe* (1991). Holland confessed to feeling the Transylvanian of trying to make the game to end

all games.* His massively ambitious design involved taking the core flight-simulation mechanics of the earlier games and adding a full strategy element of manipulating the war effort, alongside a marvelously robust mission editor. Even with the team boosted to two programmers, a producer who became the mission designer, and two artists, it took much longer than anticipated. Holland took an office inside the Lucasfilm building, and often slept on a couch. The commitment of a yearlong crunch paid off with what producer Kalani Streicher described as the game that "really carved out what simulators should be, and how fun, and with all the different missions you could accomplish with the A.I. acting as your wingman."

Better still, the underpinning core technology combined with the clear ability to produce critically acclaimed story-driven games happened to coincide with the expiration of the publishing license with another company—thus creating a terrific opportunity for a new *Star Wars* project. Holland had just the game in mind, but it would have to wait a couple of years.



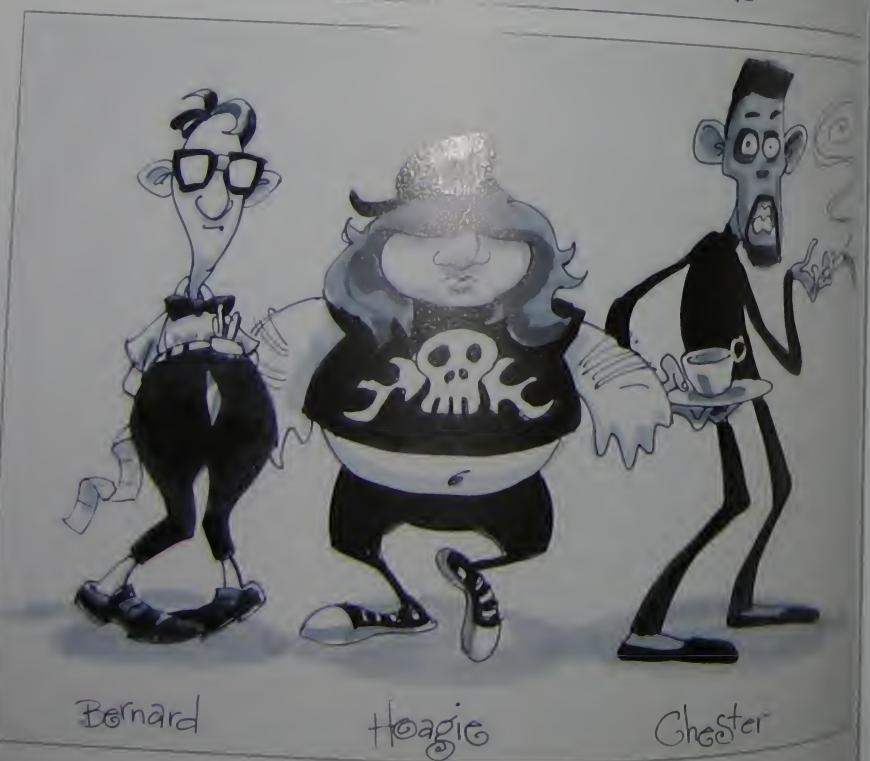
Opposite and top, left: Team artists went to town on the concept art used for *Night Shift* (1990) to showcase the assembly line of *Star Wars* and *Indiana Jones* toys produced at IML.

Top, right: Final box cover for *Night Shift*

Left: Box art for *Secret Weapons of the Luftwaffe* (1991)

Bottom: Larry Holland packed a vast amount of content into his WWII flight sim *Secret Weapons of the Luftwaffe*.





Nurse Edna Weird Ed



Right: Concept sketches showing more detail of characters who would appear in Maniac Mansion 2. Day of the Tentacle (1993, artist unknown)



CLASSIC EVOLUTION

Just a handful of designers were helping to establish the benchmark by which all other adventure games would be judged for many years to come. While the team understood that its work was popular with the gamer community, the success didn't resonate down to the shop floor in a way that might affect game-design decisions. A passion for graphics-adventure excellence was shared by the cooperative of young, enthusiastic team members, as ideas were bounced around design meetings and in shared offices. It was a highly collaborative process.

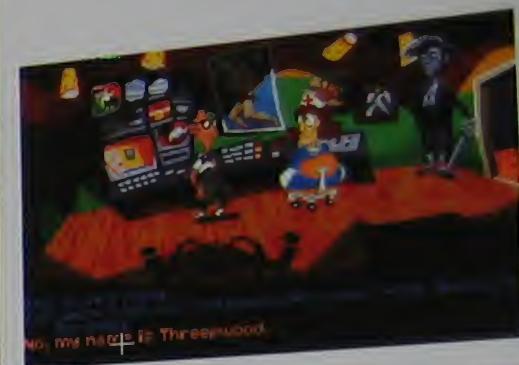
Building on the core premise established in its successful predecessor, Maniac Mansion 2 went into production with a subtitle that ultimately eclipsed the original name: Day of the Tentacle (1993). Designed by Dave Grossman and Tim Schafer, the sequel's plotline was extremely bizarre. It was also hilarious. When the purple tentacle becomes a crazed genius, Bernard, Laverne, and Hoagie are sent back in time to prevent the tentacle from drinking the contaminant that caused the transformation. An accident sends Hoagie 200 years into the past, however, and Laverne 200 years into the future. Consequently, the player, as Bernard, has to use the Chron-O-John to hop back and forth through time to save the day. "I'm fairly

certain that the Chron-O-Johns were Tim's idea," recalls Grossman, "because I remember laughing my butt off when he suggested them."

Grossman considers Day of the Tentacle his best work—quite a statement given that his résumé includes contributions to many seminal adventure games. He describes the game's visual style, its humor, and the creativity of its puzzles "all working together to support the idea that you're living inside of a Chuck Jones-style cartoon." A similar description could be applied to yet another certifiably classic adventure game that LucasArts released the same year: Sam & Max Hit the Road (1993).

Office Whipping-Boy

How did this creative group of staffers keep themselves amused? Dave Grossman recalls an incident where someone came close to putting his eye out: "Steve Purcell kept an enormous bullwhip in the office. He'd had it specially made while he was an artist working on *Indiana Jones and the Last Crusade*, and he learned to use it so he could animate Indy effectively. (At least, that was his excuse.) Once in a while he'd take it outside and whip the tops off of weeds, and he'd try to teach other people how to do it. One of the other artists gave it a whirl one time and managed to accidentally whip his own glasses off his head."

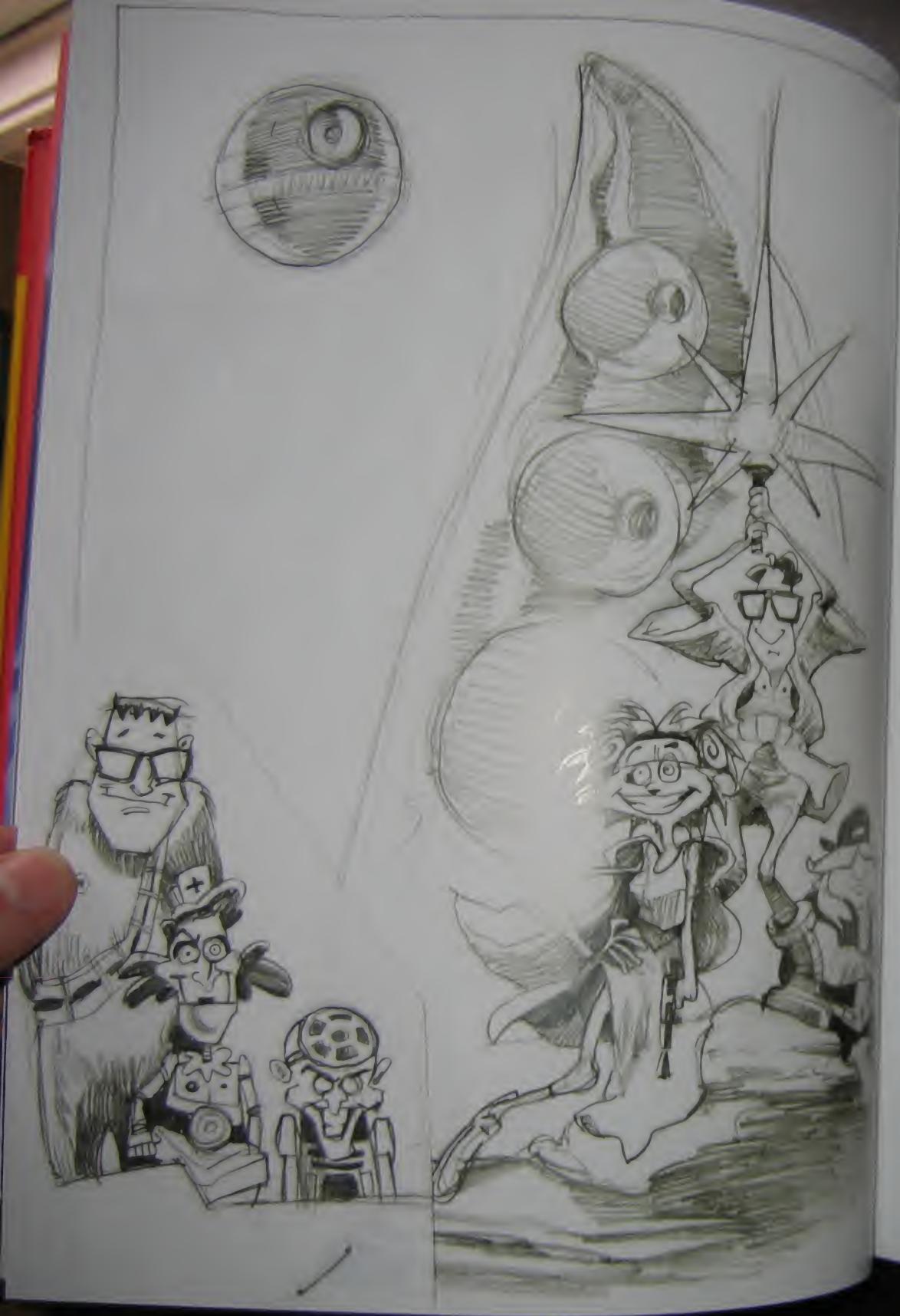


Above: Box art for Day of the Tentacle (1993)

Top, left: Chron-O-Johns don't seem like a safe means of transport for Bernard and friends.

Top, right: An in-game joke referencing Guybrush Threepwood from the Monkey Island series.

Day of the Tentacle was Grossman and Schafer's first turn as coders, which added extra pressure (though only half of what a full lead designer endures), recalls Schafer. "I remember telling the team, 'I'm usually not this much of a jerk. I'm usually a lot of fun!'"



"I remember telling the team [on Day of the Tentacle], 'I'm usually not this much of a jerk. I'm usually a lot of fun.'"

—Tim Schafer, designer

Artist and designer Steve Purcell's characters had garnered critical success and attention through self-published reprints in comic books purchased by friends or publications. It was licensed to LucasArts Games to become characters, but the two former allies—described as "Sam & Samwise" and "Max & Impudent" (a rabidly thing "narratively connected with games")—then exploded into police in search of a runaway Bigfoot-blended cartoon graphics with incisive, decidedly old-school humor. Sam & Max Hit the Road was examined with memorable one-liners and proved to be a huge critical success.

Naturally, sequels were planned and three different versions began production at LucasArts' lab of which Sam & Max Forensics Police was officially announced in 2002 but then cancelled at a closed or in its—hesitated release time. "I had the dubious honor of working on the first of three unfinished sequels to Sam & Max," says Grossman. "We got only a few weeks into it before somebody made the call that working on an adventure-game property



MUSICAL INTERLUDE

Video game creators often use special sound effects in their games. The ability to take players off-plane or back to fantastical times requires a setting that conveys image credibility. For adventure games – where story, character development, and pacing all combine with the visuals to portray memorable situations – one often-overlooked touch point is music. Just like in the movies *Star Wars* is a perfect illustration, a game's soundtrack can help define a scene or underline the emotion. The technology at work in the early days of video games limited the options available, but it also led to creative solutions, such as the preambles introduced in *Loom* (1990) being delivered on an audio cassette packaged in the game box.

For Lucasfilm Games, those limitations changed when Michael Land devised iMUSE (Interactive Music Streaming Engine). After hearing—and being quite disappointed with—how the music in *The Secret of Monkey Island* jelled with the gameplay, Land developed this new system, which revolutionized the treatment of music in SCUMM-engine games. "It was a pure genius," SCUMM creator Ron Gilbert says of the innovation. "I wish I could have done it."

Eventually, iMUSE enabled in-game music to transition seamlessly between tracks in reaction to whatever the player was doing. In movies, music is used to match the on-screen action. The freedom of a game, however, means that players may move or act as they may, so musical ties can't be predicted in advance. But iMUSE allowed the composers to use numerous transitions, mix effects, and judge whether they might sound as parameters based on the player's actions.

"[iMUSE] was just pure genius. I wish I could claim credit for it." —Ron

-Ron Gilbert



Above: In fall 1990 Lucasfilm Games released the first issue of its own in-house magazine, *The Adventurer*, featuring Secret Weapons of the Luftwaffe on the cover. This publication's 13 issues (the last issue is #14, as #13 was skipped) featured employee Q&As that brought fans into the LucasArts family. *The Adventurer* appeared twice a year until its winter 1996 issue signaled the end of print production. The emergence of the Internet as a marketing message delivery method provided access to the key fans that the magazine had targeted.

The first commercial airing of the iMUSE system was in 1991's *Monkey Island 2: LeChuck's Revenge*. "The [score] starts at the beginning and ends at the end of the game, and is just one ever-evolving piece of music," says Gilbert, describing the musical progression that matched the game flow depending on how the player acted and the speed at which he advanced.

On the business end of iMUSE development, rather than license the technology for use by other game companies, Lucasfilm patented it for the publisher's own games. It protected the technology that helped high-quality game music become a signature feature of SCUMM-based adventure games. "It was critically important to the success of [our] graphics-adventure games in terms of creating immersion and atmosphere," said acting general manager Kelly Flock, "and probably the single most important technology that was developed [at Lucasfilm Games]."

published by [Prusa 3D](#)

that didn't actually belong to the company. "It's the opportunity that made the most business sense." (The characters have since been reborn, however, in a series of critically acclaimed episodic games produced by Telltale Games, where Grooman is the design director.)

The SCUMM engine was proving to be a remarkably flexible tool for delivering high-quality scripts. Point-and-click adventures permitted the developers to scatter innumerable in-jokes across the game's locations. Scanning the mouse across each scene, looking for hotspots that revealed a funny line or reference, became an intrinsic part of the gameplay for many fans. Once again, the social collaboration of the tight-knit team clearly contributed to a creative environment. "It was a fun place to work," Schafer says, likening the spirit among the

staff to the frat house. There were explosions of disc-guns, and because disc-guns hurt you. They really hurt when you get hit.





Above: The SCUMM engine, continued to be refined as Hal Barwood used it as the engine to power *Indiana Jones and the Fate of Atlantis* (1992). Lead animator Collins Michael provided the gait for Sophia Hapgood, Indy's sidekick.

THE FUNATIVITY SCALE

The greenlight process evolved organically as game designers earned the right through their past work to become project leaders, and would then propose a number of ideas. Steve Arnold and the other project leaders would in turn cast their critical eye over the concepts, applying their own unique (and informal) "Funativity Scale," a term initially coined by Ron Gilbert. With ratings from -17 to +23, this scale was internal shorthand for asking the crucial question of what was fun about a particular game idea. It helped adjudicate the viability of new projects being pitched by the various game designers, and weed out ideas that were more research-focused than commercially oriented.

Early in Lucasfilm Games' history the division had retained the research-focused attitude of the rest of the Computer Division. As the company started

to focus on commercially minded projects, tension emerged between the parts of science development work and the games that were attractive in the market. Innovation was always a key factor, but by Atari's desire to see the studio add a built-in flare to video games and the bold creativity of the group's designers.

The Funativity Scale would give manager a broad picture of the options. With that, game concepts would be production schedule or the culture. However, what had been a light-headed underlying business-focused notion was a purely subjective initial-project that could neither greenlight nor

INDY OFF THE SILVER SCREEN

Right after *Indiana Jones* and the Last Crusade (1989), another Indy game was planned, as the first one had sold well. Though initially the team had considered a rejected movie script by future A-list film director Chris Columbus for the game's story, they decided against it. So project leader Hal Barwood and designer Noah Falstein began brainstorming fresh ideas.

A three-island image of fabled Atlantis, along with the Atlanteans' purported invention of the metal alloy orichalcum, eventually jelled into a game design partly inspired by Plato's description of the sunken world. Though core gameplay would use the SCUMM engine, the designers developed new video rotoscoping technology to give the characters more realistic movement.

As the designers considered their potential audience, it became clear that the growing ranks of gamers were now fragmenting into different interest groups: cerebral puzzle-solvers and intense-action fanatics. Though it added an estimated six to nine months of development time, the designers created three separate paths through Fate of Atlantis to appeal to different types of gamers—those who wanted to solve puzzles, work cooperatively with a team, or use their virtual lists and ask questions later



Left: Poster for *Indiana Jones and the Last Crusade*, a film that heavily influenced a key Indiana game franchise.



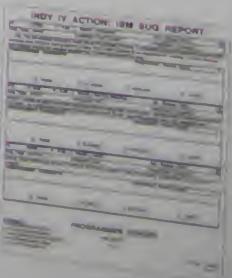
Above: Box art for *Indiana Jones and the Fate of Atlantis* (1992).

Below: An internal bug reporting form used for *Indiana Jones and the Fate of Atlantis*, here titled "Indy IV," April 10, 1992.

PROGRAMMER REPORT

REAL BUGS
A-C

Bug Classes:
A = crash (can't finish the game)
B = truly ugly (but you can finish)
C = golly it would be nice if we could fix this
D = existing game design matters
E = game design suggestions



INDY 4 ACTION Test Report
SPECTRUM at Spidersoft. 19 MAY 92

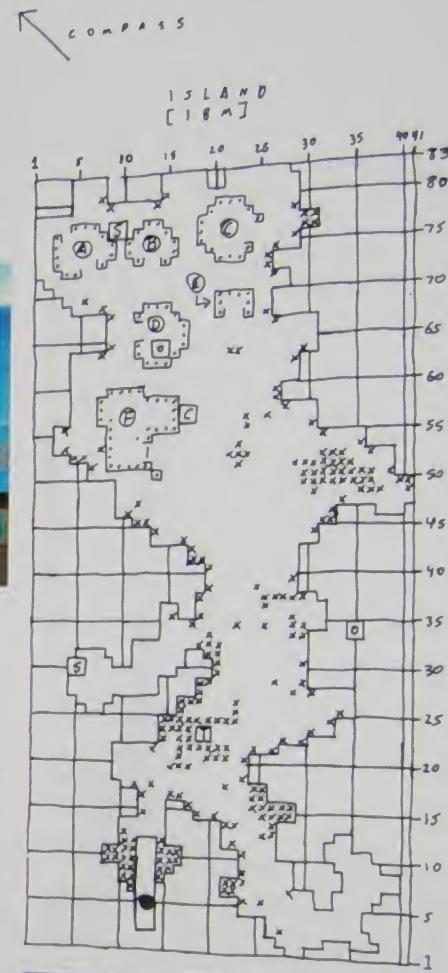
- 1 INDY, SOPHIA AND ENEMY CHARACTERS WALK IN MID AIR (LEVEL 6).
- 2 GAME CRASHED AFTER COLLECTING ITEMS DURING FIGHT WITH NAZIS (LEVEL 6)
- 3 ORICHALCUM'S DON'T GO ~~DOWN~~ WHEN USED ~~DONE~~
- 4 EXIT INVENTORY MODE BY ~~USING~~ SPACE WHICH IS PAUSED TO USE ITEMS IN INVENTORY (BY ~~USING~~ SPACE BAR ITEM WILL BE ~~SELECTED~~ THEN USED IF PRESSED AGAIN). INSERT 'QUIT GAME' KEY ~~DONE~~
- 5 THE FOLLOWING IS A LIST OF EVENTS NOTED IN RAPID FILE 4 WHICH ARE BEING WORKED ON PRESENT 47, 60, Awaiting NEW GRAPHIC 31, 65, 1, 42, 55, 61
- 6 TO QUIT GAME PRESS (H) TO PAUSE GAME THEN X KEY TO QUIT.

CHECK
AFTER
MASTERING



After *Fate of Atlantis*, another sequel was planned: *Indiana Jones and the Iron Phoenix*. This plotline involved exiled Nazis hiding in Bolivia, discovering a way to resurrect the Führer from his ashes. However, the German market was an increasingly significant factor in the publishing of adventure games. Though Nazi themes were permissible, a story involving a revived Hitler (or a simmering Nazi regime prepping to resurface from its hideaway in a South American country) likely wouldn't make the cut, so the game was cancelled after spending 15 months in development. However, the story was picked up by Dark Horse and turned into a four-part comic-book series, released in 1994.

A similar fate befell yet another game, *Indiana Jones and the Spear of Destiny*, which was due to be developed by an external studio. This one involved the recovery of the mythical spear that was used to pierce the side of Christ at the crucifixion (an obvious target for the religious artifact-obsessed Nazi leader). It was cancelled before production advanced significantly, and then, as with *Iron Phoenix*, was released as a comic-book series by Dark Horse in 1995.



[Ⓐ-Ⓑ]-HUT
○-JAIL
Ⓑ-CHIEF'S HUT
Ⓒ-CHIEF
Ⓢ-SHARK TEETH
Ⓓ-RANDOM OBJECTS
ⓧ-STARTING POINT

Above: Sketch map of the Atlantis game progression with locations of key events.

Far left: The evolving SCUMM engine allowed greater interaction with the game world, as seen in this *Indiana Jones and the Fate of Atlantis* screenshot showing Indy donning a diving suit for an underwater excursion.

Left: Publisher Dark Horse Comics released comic book versions of *Indiana Jones* story ideas (*Indiana Jones and the Iron Phoenix*, 1994 and *Indiana Jones and the Spear of Destiny*, 1995) that were not made into games.

Opposite: A bug report dated May 19, 1992, from Spidersoft, the company porting *Indiana Jones* and the *Fate of Atlantis* to the ZX Spectrum system.





Above: JVC published Lucasfilm Games' first internal Star Wars game for NES in 1991, and quickly followed with Star Wars: The Empire Strikes Back in 1992.

Right: The Swedish poster for Star Wars (top) and the American poster for The Empire Strikes Back (bottom).

ENTER STAR WARS

Fourteen years after the first *Star Wars* movie made millions of fans dream of living in that galaxy far, far away, and nine years after Lucasfilm Games was formed, the studio developed its first *Star Wars* game. At the time (1991), videogame publishing rights were owned by JVC, which meant that Lucasfilm Games' risk was minimized. Lucasfilm received a licensing fee from JVC for the rights to do a *Star Wars*-based game, and, as part of that arrangement, Lucasfilm would work on game design and production. The corporate entity would have approval over the shenanigans Lucasfilm Games would be producing in creative services, as they contracted an outside vendor to provide the core technology programming.

However, publishing games on the NES console platform involved significant risks given the cost required to finance a game. Each game cost between \$24 to \$28, and it had to be bought up front according to acting general manager Kelly Flock. The deal with JVC included a guaranteed advance of about \$1 million, for which six games would be produced. With an estimated budget of \$80,000 to \$100,000 per title, this arrangement allowed Lucasfilm Games to enter unfamiliar territory—console-game development—with some financial cushion to handle any problems that might emerge.

Lucasfilm approached Australia-based Beam Software to use its knowledge of the Nintendo platform to provide the game programming, while the two companies worked collaboratively on the game's design. This process of external studio management introduced new issues for Lucasfilm Games. In August 1990, Kelly Flock was shown a videotape of the game slated for a September release. Having



"[For *Super Empire Strikes Back*] we really went off the deep end with canon and authenticity."

—Jon Knoles, animation supervisor



previous experience working with the new console system while at Activision, Flock realized that the game would not be ready to ship in a month. Requests to Beam to add new features resulted in continued delays as everyone learned that bringing the main *Star Wars* movie experience to the limited memory capacity of the NES platform was simply too much for the system. At the (1990) Consumer Electronics Show (CES) passed, a new release date of March 1991 was set. To help ensure that the game requests were viable on the platform, Flock flew to Beam's offices to show them the game to the finish line.

The ambition to recreate every significant *Star Wars* movie action scene was abandoned in favor of using key gameplay scenes into the 128K available on the NES. Ultimately when *Star Wars* shipped, broad recognition helped it perform well at retail.

Meanwhile, by late 1991, Nintendo had released a new console—the Super Nintendo SNES—in North America. Development of the game sequel *The Empire Strikes Back* (1992) on NES was considered in Uri-based Sculptured Software. At

the same time, the opportunity surrounding the new system attracted Lucasfilm Games' attention, and so *Super Star Wars* was put into production, also to be developed by Sculptured Software. Both games were released in 1992. Since interest in the NES platform was waning, plans to produce a *Return of the Jedi* game were shelved in favor of focusing attention on the new SNES market.

Up to this point, many Lucasfilm Games' employees had come to the company with the desire to produce SCUMM engine-type games. These funny, stylish, happy adventures encouraged creative designers to apply for a position so they could develop that kind of game. While the Lucas name might imply internal development teams cranking out *Star Wars* games, the Lucasfilm Games brand had expertly established its own identity and commercial popularity. But now the company's shining family jewel was on the table for internal development, and the in-house designers could turn their creative attention to this fresh opportunity. So for *Super Star Wars*, the actual game design was crafted in-house, while

Above: Issues 42 and 53 of *Nintendo Power*, featuring *Super Star Wars* and *Super Star Wars: The Empire Strikes Back*.

Top, far left: Screenshot of landspeeder level from NES *Star Wars* (1991).

Top, left: Screenshot of Luke Skywalker finding Obi-Wan Kenobi in a cave level.



Above: Box art for Super Star Wars (1993).

Top: Illustration of Super Star Wars characters.

Right: Screenshot of Luke Skywalker performing a lightsaber attack from Return of the Jedi.

"I used the Super Star Wars license for the SNES to develop something that was not primarily concerned to have full control of publishing the game, but to be an licensee. We got a lot of freedom and a lot of license, but it was still within the strict parameters of the original Star Wars license."

—Kenny Stills, producer of Super Star Wars Trilogy

the progression of working with the characters, as handled by Soulpainter Studio.

Throughout the Luke Skywalker levels in Super Star Wars (1993), the game design allows Luke Skywalker to perform actions that he didn't care to do in the movies. As Luke learned the Force, he could perform additional game play-for-a-price actions, such as freezing enemies or making them run away in a confused state. "In this area, we really went off the deep end with humor and authenticity," explains Jon Knole, animation supervisor on the Super Nintendo games.

But that was okay. A distinct separation was made between maintaining the canon of the characters and galaxy, and empowering designers to craft games that would appeal to an audience wanting to

experience the



take these roles beyond what they'd witness at a movie theater. Also, at this time, the relatively few visual effects created a clear separation in the audience's mind between a small-screen interface and a big-screen blockbuster.

The experiments with 16-bit gaming on Super Nintendo (the original NES was an 8-bit console)



Above: Box art for Super Star Wars: The Empire Strikes Back and Super Star Wars: Return of the Jedi.

Top, far left: Screen image of Obi-Wan Kenobi from Super Star Wars.

Top, left: Image used for the opening of Super Star Wars: The Empire Strikes Back.

Left, top: Screenshot of Luke Skywalker gathering hearts to regain his health, from Super Star Wars: The Empire Strikes Back.

Left, bottom: Screenshot of Luke Skywalker on a tauntaun, from Super Star Wars: The Empire Strikes Back.

The Super Nintendo platform introduced Mode 7, a technique of mathematically scaling and rotating images to create a sense of 3-D. Designers were thus able to craft a game that brought over more of the movie world to the screen.





CHAPTER FOUR

SHOOTING FOR THE STARS

1993–1995

Corporate-level changes were afoot in the halls of the Lucas companies. By 1993 Lucasfilm Games had become a part of the newly formed LucasArts Entertainment Company, while Industrial Light & Magic (along with Skywalker Sound) became the new Lucas Digital.

At the announcement of the new company structure, emerging design star Tim Schafer wanted to ensure that the Lucasfilm Games group wasn't lost in the shuffle. By gluing glitters in the form of the new company logo onto fez-like hats and walking into the meeting wearing those hats, the employees ensured that nobody could forget that alongside the cutting-edge technology development of ILM and Skywalker Sound, a vibrant creative group was making popular games within the growing company.

THE CD-ROM REVOLUTION

Taking charge of its own destiny, LucasArts management restructured its distribution deal to clearer, more controlled avenues into the market. These behind-the-scenes business moves set the foundation for the company to publish its own *Star Wars* game without the need for a JVC license. Electronic Arts to pull the distribution muscle. The new setup placed the entire business under LucasArts' games development in the hands of ILM. In 1993 *Star Wars: Rebel Assault* was released to an unassuming gaming public, and in the process helped define the emergence of the modern CD-ROM technology. It was now available on PCs, and LucasArts had just the title to sell a gamer want to upgrade.

Part of the origins for this game came from overseas. LucasArts already had a space-themed



game called Planetside in development at Psygnosis in the United Kingdom, with JVC set to publish it. The plan was for this game to be licensed to Fujitsu for its FM Towns PC system. Fujitsu wanted to generate original content for the PC platform in its own highly competitive market, and, recognizing the global brand attachment of *Star Wars*, the company had entered into an agreement that resulted in several LucasArts titles being ported for release in Japan.

For one, it called for the filming of new live-action footage in the *Star Wars* galaxy, which caught the attention of George Lucas.

A suggestion emerged from Japan that the Planetside project should be a real-time shooter, and should be set in the *Star Wars* universe. "We couldn't get a satisfactory design document from Psygnosis, but [they did have] a lot of requests for more money," says then general manager Kelly Flock.

Unwilling to pursue the project under the existing terms, LucasArts broke off the deal with Psygnosis, and JVC was informed that LucasArts would publish this new game itself—which represented a massive risk. For one, it called for the filming of new live-action footage in the *Star Wars* galaxy, which caught the attention of George Lucas. He had been happy to let the *Star Wars* games come to life via sprites and polygonal characters, but if video was suddenly the primary visual production method, the games would start to encroach on the movie space. According to producer Hal Barwood, Lucas was concerned that if movie-like footage was shot, it



Above: Box art for *Star Wars: Rebel Assault* (1993).

Left: As seen in this screenshot, Vince Lee's engine, overlaying interactive sprites over video, helped revolutionize gaming, and gave gamers a reason to buy a CD-ROM drive in *Star Wars: Rebel Assault*.

Like Minds



Prior to the formation of LucasArts Entertainment in 1993, the Lucas companies had investigated a merger between Lucasfilm Games and Interplay, a game studio-turned-publisher. According to Lucasfilm Games general manager

publishing industry, and its franchises had strengths similar to those of LucasArts. *Bard's Tale* (1985) was a popular role-playing series with great storytelling akin to *Monkey Island* and *Maniac Mansion*; *Battle Chess* (1988) was a real-life version of the *Millennium Falcon's* 3-D chessboard, and it shared the humor of LucasArts' games; and an emerging relationship with Paramount Studios to produce games based on the *Star Trek* universe—beginning with *Star Trek 25th Anniversary* in 1992—reflected an understanding of how to work successfully with a popular entertainment license.

But the merger stalled, and Lucasfilm Games, which had been one of several divisions under the LucasArts Entertainment Company banner, took over the LucasArts name.

Left: The original LucasArts logo's "gold guy" had metallic gold flecks.

Right: Vince Lee, then working
independently for his work on
Rebel Assault, an *Star Wars* space
flight simulator.

"We knew we had a hit on our hands when we hiked up the wholesale price just a couple of weeks before we were going to sell [Rebel Assault], and retail ponied up the extra 10 dollars..."

—Mary Bahr, marketing



could cause confusion with the film cameras, players would assume Lucas was somehow

Producing a suitable technology was a challenge until programmer Vince Lee, in course of a weekend, wrote a rudimentary program that enabled sprites to overlay streaming video. This meant that the artists could draw an cockpit outline of the pilot's dial and instruments and then lay that image atop the streaming video to give players the sense of being in a vehicle flying across a landscape that could have been plucked straight from any of the *Star Wars* movies.

Lee presented the footage to Lucas, who was mostly content with the way the video shot had turned out but did have a few suggestions — mainly about the framing of certain shots, recalls Barwood.

By 1993 the sale of CD-ROMs for home PCs was relatively slow. Most off-the-shelf PCs didn't come equipped with a CD drive, despite the growing buzz around the concept of multimedia production. But the coming explosion could be felt, and *Rebel Assault* was almost considered an experimental project. Companies like Midway had been packaging older games (including the SGUMM adventure) into CD-ROMs — sometimes including extra video or audio tracks — and were selling an average of 10,000 copies of each product. LucasArts marketing director Mary Bahr recalls the group thinking that

sales of 30,000 to 40,000 copies could be made in a *Star Wars*-branded CD-ROM game.

Although *Rebel Assault* placed the player in a "guided" rail, where there was minimal control within the game, Vince Lee's innovation of 2-D sprites atop video footage from *Star Wars* resonated with fans. He created an innovative interface essentially placing fans inside the films. Because the rail-based game format didn't allow for off-course exploration, a practiced player could fly the entire game within a couple of hours. This proved to be a small drawback. The team had kept the cost to develop the game relatively low compared to the people-intensive process required for SGUMM-engine titles.

Rebel Assault's impact was felt all over the games industry — in selling CD-ROM drives to PC owners, in demonstrating full-motion video as a way to blend movie-like quality with computer interactivity, and in proving that a bold experiment could turn into a massive commercial success. "We knew we had a hit on our hands when we hiked up the wholesale price just a couple of weeks before we were going to sell the product," recalls Bahr. "Retail ponied up the extra 10 dollars and the wholesale price went out [to wholesalers] with the suggested retail price, \$16.95."

Despite the relatively high wholesale price, the day-one shipment numbered 110,000 units. This was an experiment in a format yet to gain traction to selling over 1 million units. *Rebel Assault* became one of the biggest rewards in LucasArts' against-revenue strategy.



WORLD WAR II FLIGHT SIM-IN SPACE

The journey toward the release of Larry Holland's seminal space-flight action sim *Star Wars: X-Wing* (1993) began much earlier, as he completed work on *Battlehawks 10/42* (1988). The license to produce *Star Wars* games at that time resided with publisher Broderbund, which had released conversions of the classic *Star Wars* arcade game for home systems such as the Commodore 64 and PC. So design discussions with general manager Steve Arnold and designers within LucasArts to apply a game design involving the mechanics of World War II fighter planes to the space-based action scenes of the *Star Wars* movies initially didn't get off the ground. Still, the idea was filed away for future reference.

To get a sense of the speed, movement, and tactics of Air Force pilots, Holland and his team studied footage of actual dogfights filmed from the gun cameras. The more they saw, the more they realized the common ground these dogfights shared with the X-wing battles in the *Star Wars* films — which is not surprising, as Lucas had studied similar dogfighting footage in planning out the aerial choreography for his *Star Wars* fighters.



By the time Holland shipped *Secret Weapons of the Luftwaffe* in 1991, and its expansion disks the year after, the *Star Wars* license was back with LucasArts. As obvious as it would seem to dust off the idea of applying the flight-simulation engine to *Star Wars* spaceships, this was not a time of huge excitement around the franchise. "It was a period when *Star Wars* was in the doldrums," recalls Holland, and the company questioned whether an audience for games based on the setting existed in sufficient numbers. But author Timothy Zahn's *Heir to the Empire* series of novels (including *Dark Forces Rising* and *The Last Command*) performed admirably at bookstores between 1991 and 1993, which helped invigorate



Above: Box art for *Star Wars: X-Wing* (1993).

Left, top: A screenshot from *Star Wars: X-Wing* showing the cockpit view and an enemy TIE fighter.

Left: Screenshot of level 1000 in *Star Wars: X-Wing: Mission: Admiral Ackbar*.



March 3, 1994

Vince Lee & the Rebel Assault Crew
LucasArts Entertainment Company
P.O. Box 10307
San Rafael, CA 94912

Dear Vince and the Rebel Assault Crew:

I am extremely excited and proud of the great work you've done on *Rebel Assault* and the great sales success and acclaim that it has received. You've taken "Star Wars" into the CD-ROM platform and you've extended my original story ideas into a new and different form of entertainment. You seem to have set the standard for what this new medium can accomplish for interactive entertainment. It's great that we can also set the standard for what sales can be, as well.

It's a job well done. Congratulations.

Sincerely,

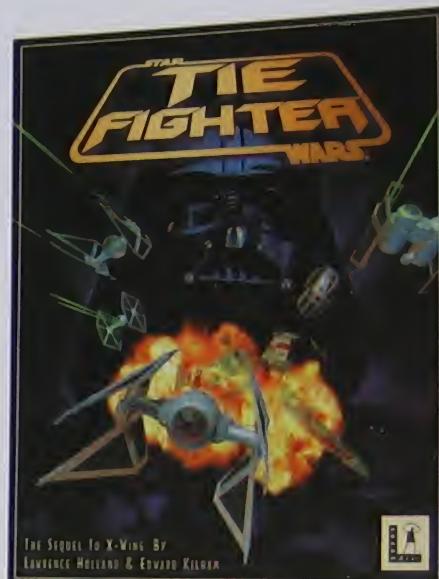
cc: Randy Komisar
Jack Sorensen

brand confidence. In late 1991, Holland added a third programmer to the core team and set out to apply the flight-simulator lessons to the *Star Wars* space setting in the game that would become *X-Wing*.

At first the team used the 2-D-sprite style of his previous flight sims, which required about six months of work hand-drawing X-wings and other ships from numerous angles. Eventually, they decided the ships should be polygonal. "The artists were like 'What? How could you possibly do that?'" says art lead Jon Knoles.

Fighting the technology, the game was looking "primitive" for a long time during development. But finally, as the ships' blaster bolts began to flash against the backdrop of black space, it was clear that the game was heading in the right direction. A big question remained about how the audience would react, however. The team was unsure whether the setting would strike a chord with gamers—would they follow Holland's past, historically inspired games into the starry void?

For these reasons, Holland didn't expect the reaction that would propel *X-Wing* to the rarified air of the pantheon of PC gaming. When Gordon Radley, president of Lucasfilm, took the whole *X-Wing* team—including the testers—to a grandiose celebratory dinner at the swanky Lark Creek Inn in Larkspur, California (about 20 minutes from the office), "It was the coolest moment," recalls Holland. "The movie-industry side of the business saluted the contribution of the gaming team."



THE SEQUEL TO X-WING BY
LAWRENCE HOLLAND & EDWARD KILBRETT



Left: Box art for *Star Wars TIE Fighter* (1994), the sequel to *X-Wing*.

FIGHTING FOR THE BAD GUYS

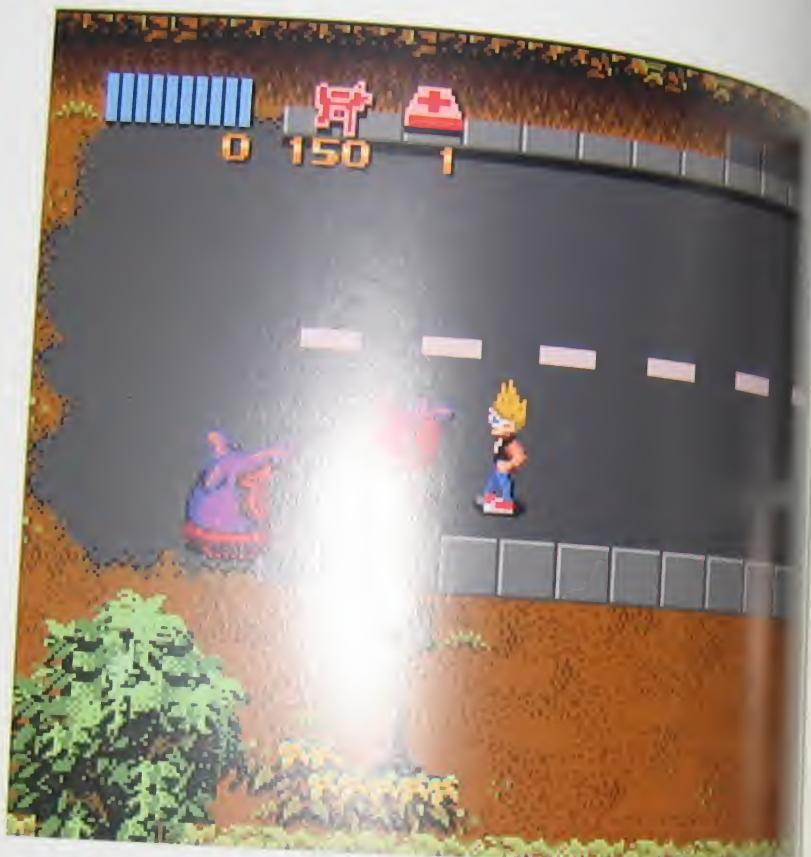
The flight-sim category would take another step up as Holland's team—which became Totally Games during the production of *X-Wing*—tackled the flipside of the story, putting the player in the cockpit of an Imperial TIE fighter. Holland's academic background in anthropology helped him define the value of seeing the other side of a conflict, something he had already done with precision in the historical *Secret Weapons of the Luftwaffe*. (Holland had challenged the designer to find a story that would make gamers want to play as a German Air Force pilot in World War II.)

Another lesson learned from that project was try not to cram in every conceivable idea. The original design plan for *X-Wing* had you flying for either the Empire or the Rebellion, but, realizing the scope of that undertaking, Holland had scaled back the ambition level for this first game. The team took the lessons they learned on *X-Wing* and built an even better game with *TIE Fighter* (1994). Holland accepted that

Above: Two expansion disks quickly followed the release of *X-Wing*, as the business model of adding new planes and missions to an original game had proved successful with Holland's earlier sim titles.

Opposite: Congratulatory letter to the Rebel Assault team from George Lucas, dated March 3, 1994.

(Continued on page 84)



Zombies Ate My Neighbors



Above: Box art for *Zombies Ate My Neighbors* (1993).



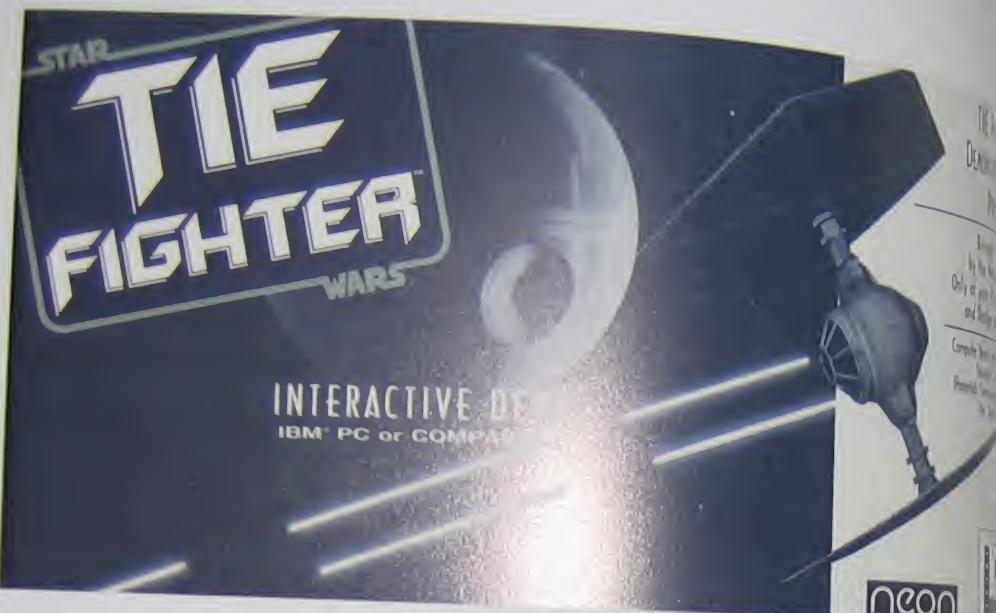
Top and right: On the SNES version, players could access the bonus level (seen here in a screenshot) by entering the code "BCDF" on the Genesis version; they used "GSDZ".

LucasArts continued to tell fresh stories and game mechanics. Designer Max Barlow and Dean Sharpe concocted a game concept called *My Neighbors* (1993), which knew you from Super Nintendo and Sega Genesis. Similar to *Zombies*, *My Neighbors* brought a sense of humor that referenced *Hi-Fi* and *Tentacle* (named for that game), and the plot was presented in the final level of the game, "Killing Us". The credits level is a reproduction of the LucasArts offices with numerous employees (portrayed as zombies) who introduce themselves to the player. These can be found at the front desk, including the line, "Welcome to LucasArts games and not your work" (see facing page). The adventure then follows the protagonists of the *Zombie* adventure into its sequel, *Ghoul Patrol* (1994). This follow-up received as its predecessor, however, a belated ending.



Above: Box cover for *Ghoul Patrol* (1994), the sequel to *Zombies Ate My Neighbors*.

Left: Using password code "XMIR" on the SNES version opens the "Monsters Among Us" level, which includes George Lucas (top left), artist Steve Purcell (middle left), lead animator Collette Michaud (middle right), "Boss" Kelly Flock (bottom left), and testers Mark Cartwright, Leyton Chew, Mark Nadeau, Brett Tosti, and Mike Levine (bottom right). The anticipated "robot game" is *Metal Warriors* (1995).



Above: Del marine Plymouth and Dodge recognized the appeal of *TIE Fighter*, using it as bait to get customers to come in and drive their cars.

Right: Screenshot of cockpit view from *Star Wars: TIE Fighter*.

the gameplay in *X-Wing* was too easy for those people who had been enthralled by *X-Wing*, setting but who had found the *Empire* gameplay challenging, as it required you to use numerous off-board ship functions, stay alive, and, of course, complete the missions. "We made a more balanced, better game with *TIE Fighter*," explains Holland. "Like with the first kid—you make a bunch of mistakes, but then you make fewer as you go on."

Historically, gamers have in fact displayed a penchant for playing as the "bad guys," and the goal of becoming Darth Vader's wingman clearly appealed to the audience. So despite the fact that players were or maybe because they were flying for the Empire, *TIE Fighter* became a huge critical and commercial success. In shaping the player's dark protagonist, the game approached the Empire not as fundamentally evil in nature, but militaristic, keeping order throughout the galaxy using a foundation of power.

At this time there was little oversight from Licensing that might limit LucasArts' mission styles or objectives. Any issues in sticking to canon mainly revolved around individual ship designs. From the basic guidelines, so long as Darth Vader didn't appear in a pink tutu, most anything else was fair game.



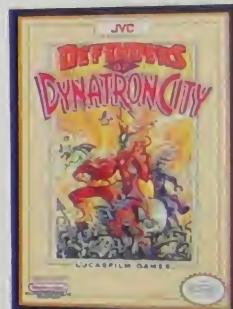
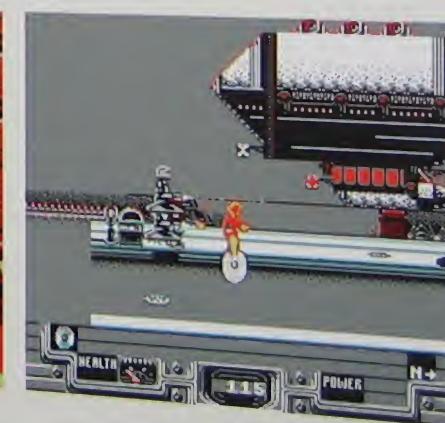
That attitude went all the way to the top. It recalls being told of a Lucasfilm board meeting that included a review of the *TIE Fighter* box art. On the back of the box referenced the *Star Wars* license. Lucas commented that there was no longer a Lucas, paused, and then added that the license was approved. "There was a relaxed feel. We wouldn't pore over every detail," says Holland. "It was liberating to work on a property that wasn't bound by strict rules."

For internal development teams, the gloves were now off as opportunities to apply the *Star Wars* setting to the broadest range of game genres.



Defenders of Dynatron City

The shifting, growing scope of the games industry, with new gamers discovering the hobby thanks to the influx of powerful console systems, all combined to warrant efforts to target demographics and not just platforms even before the company became LucasArts. To that end, art director Gary Winnick created a range of superhero characters and a storyline as a new intellectual property, *Defenders of Dynatron City* (1992). The game was aimed at 18-to-24-year-olds, whereas many of Lucasfilm Games' previous games were successful with 30-somethings, who could afford the home computer required to play



Above: Box art for *Defenders of Dynatron City* (1992).

Top: Artist Gary Winnick conceptualized a bold design for *Defenders of Dynatron City* with a city threatened by Dr. Mayhem, robots, and mutants.

Bottom, left: Screenshot of Headstrong and an enemy robot.

Bottom, right: Screenshot of Buzzsaw Girl facing a level boss.

Pages 86-87: Concept painting for *Defenders of Dynatron City*, by Steve Purcell (circa 1992).





CHAPTER F

BURIED TREASURE

1995–1996

The creative heart of LucasArts was now beating strongly, with the *Star Wars* and *Indy* franchises available to internal teams and with innovative original properties balancing the portfolio. Not surprisingly, as videogames started to generate broader mainstream attention, the companies that produced consistently successful products became targets for acquisition.

Randy Komisar, president of LucasArts from 1993 to 1995, held a serious inquiry from a high-tech company looking to move into this emerging business space. "They looked at everything we had, and they said, 'Where's your technology? Your technology base isn't strong,'" he recalls. Komisar explained that the game industry was moving at breakneck speed so that technology was continually

and radically evolving. "Our guys were problem solvers . . . they never built technology to solve a problem, and would throw it away and solve the problem again with a different set of parameters."

But for most large technology companies, methodology was worrying. "This company [our mindset]," adds Komisar. "They see technology as an asset, as something you can use over and over again." Although internal to the company, the experience helped illustrate the challenges faced by game developers and positioning to stay ahead of the rapidly moving market for those wanting to be on the leading edge. PC technology had a roughly six-month shelf life, new video and sound cards improved performance, and LucasArts' commitment to new console platforms was intermittent, but these console presentations

challenges for the future as the company explored new opportunities. Yet it was against this difficult backdrop that the internal teams still created some of the studio's most beloved games.

Adventure games continued to dominate the company's product lines and expertise, alongside the military simulations that had now dipped into the *Star Wars* universe. Similarly, the PC remained the company's platform of choice, with console development handled by external studios. Elsewhere in PC-game development, the first-person shooter was emerging as the latest exciting genre; id Software's *Wolfenstein 3D* (1992) and especially *Doom* (1993) had captured gamers' imaginations; the latter had even caused office networks around the world to crash under the weight of traffic driven by the latest industry buzzword: deathmatch.

Three engineers at LucasArts subsequently hatched up with a new design idea: to ride the *Star Wars* franchise to the forefront of the first-person-shooter genre. In its first iteration, the game that would become *Dark Forces* (1995) featured a plot following Luke Skywalker's experience straight from the *Star Wars* story. A second version of the plot followed a Jedi character who was working behind the scenes to realize the Jedi dream.

Stepping into the first-person shoes of an action hero in the worlds of *Star Wars* presented a unique experience that clearly resonated with the audience.



during the events in *Star Wars*, the characters' progress would run parallel to the famous events of the movie. Yet, neither of these plans had buy-in with the design team, and both were scrapped.

Justin Chin, who had joined LucasArts as lead artist for the SNES game *Big Sky Trooper* (1995), was about to start work on an *Indiana Jones* adventure game. While that game looked impressive, Chin recalls seeing LucasArts engine programmer Ray Gresko crafting a 3-D TIE fighter mating in a blocky 3-D room with a lot of hallways. It was crude but amazing. "The stated intention to take office-favorite *Wolfenstein* and make it for the *Star Wars* galaxy was incredibly appealing, so Chin jumped from the *Indiana Jones* project onto the *Star Wars* team. Once onboard, he floated a story idea about an Imperial soldier who, under the guidance of Mon Mothma, eventually becomes an agent for the Rebels.

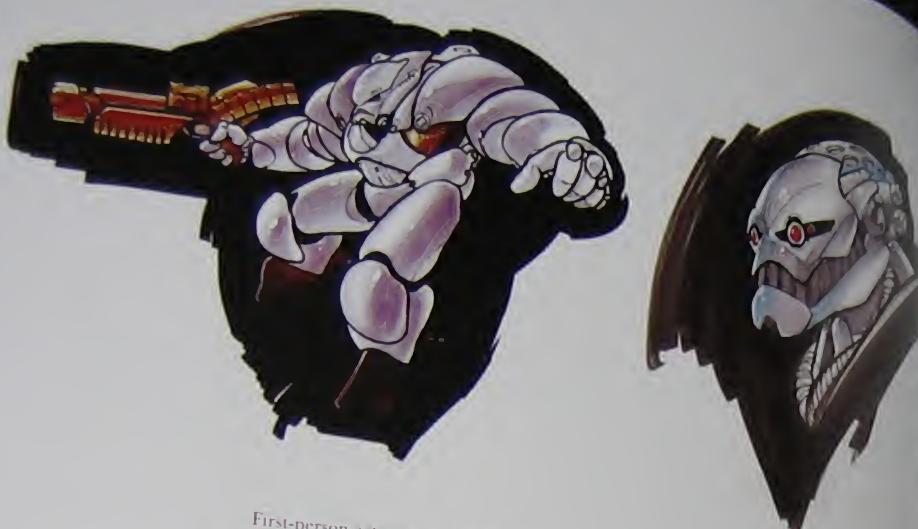
That character was Kyle Katarn, and though he was an accomplished and decorated soldier, he was not a Jedi. That meant no Force powers, and due to the technological limitations of the fledgling 3-D engine (the planned lightsaber ended up on the cutting-room floor, Katarn would have to wait for the sequel to realize the Jedi dream).



Above: Box art for *Star Wars: Dark Forces* (1995).

Top left: A part of the evolution of the game design: the interface for *Star Wars: Dark Forces*, seen through several iterations, such as the one shown here from an early version of the game.

Top right: This image from *Katarn* PDA shows a *Star Destroyer* map that ultimately did not make it into the final shipping version of *Dark Forces*.



First-person action games required level designers, so new skills were needed among the team members. Convincing, effective storytelling was a new concept in a genre that usually used its visceral appeal to grab headlines and attention, while total action was new to the company, as was the technology created to drive the experience. Between all these strategic, structural, and technological elements, the project was intensely challenging for everyone involved. Despite these factors, and the fact that Dark Forces lacked a multiplayer component (no deathmatch!), the game was relatively successful at retail.

Top: Concept art of characters in Star Wars: Dark Forces, by Justin O'Neil, circa 1994

Right: Sketch from Metal Wariors, artist unknown, circa 1994

Big Sky Trooper and Metal Warriors



LucasArts continued to pursue console development for publisher JVC, with Hal Barwood leading Big Sky Trooper (1995). Metal Warriors (1995) was published by Konami. Both games suffered from being released just as the SNES platform was eclipsed by the launch of the Sony PlayStation.



Spielberg worked closely with Lucasfilm Games on the outline (while sci-fi author Orson Scott Card wrote the dialogue), thrashing out answers to questions.

THINK BIG

A hugely challenging but fascinating part of LucasArts' history was the development process for *The Dig* (1995), which began years before its release. The story involved an asteroid hurtling toward Earth and a team of astronauts sent to destroy it. The crew's discovery that the meteor is a remnant of an advanced civilization—combined with the subsequent immobilizing of their ship—presented a bold plotline

So bold, in fact, that the initial intention for the story, originally conceived by Steven Spielberg as a movie, had to be shelved due to the unmanageable cost of filming something on that scale in the late 1980s. Building sets and producing the story would be cheaper if it was all digital—that is, if it was recast as a game. Spielberg's longtime interest

(continued on page 94)



LucasArts' first game for the SNES, *The Dig* (1995), was developed by a team of Lucasfilm Games artists.





Opposite and left: Concept art for creatures in *The Dig*, by Peter Chan
Opposite top: circa 1994; opposite bottom, August 1994; top: July 27, 1994; bottom left: June 20, 1995



Top: Concept art for *The Dig*



Above: Creator of *The Dig* storyline, director Steven Spielberg

in videogames and his friendship with Spielberg, who had dropped it on the doorstep of LucasArts.

Spielberg worked closely with LucasArts Games on the outline (while sci-fi author Orson Scott Card wrote the dialogue), thrashing out answers to questions about how they would arrive at certain key points of the story, how characters would evolve, and where moments of drama would emerge. It was a process that brought elements of film production to the videogame world, a methodology further complicated by weaving a plot that would allow Spielberg to eventually produce a movie that would fill in more details about this tale of archaeology in space.

Where most games were taking years to develop, *The Dig* took about six years from a concept in 1989. As a result, it passed through several designers, starting with Noah Falstein, then Barwood acting as project lead before best friend Brian Moriarty, and then in Sean Clark. It approached completion on the game, due to be with its now three-year-old game engine, but creation would look somewhat stale in the ever-growing games technology. But it would have taken another year of work to retool the engine and associated art, and that wasn't an option.



With various iterations and aging technology, *The Dig* failed to live up to its billing. "[The game] suffered several setbacks from not having one creature



visionary on our end to interface consistently with DreamWorks," recalls marketing director Mary Bitter. Nevertheless, *The Dig* was an intriguing experiment in the broadest form of multimedia entertainment. A novel was also released alongside the game, and, with the potential for a movie extension, it was an ambitious project conceptualized to cross multiple media platforms. The result didn't match the potential, but it served as a valuable lesson in how games could blend movie-quality story-telling and production values into one fluid experience.

(continued on page 98)



Above: Famed author Orson Scott Card wrote the dialogue for *The Dig*

Left: The concepts came to life in the game world as the team tried a cinematic approach to game storytelling such as this screenshot showing the appearance of an alien ghost.



Right: Oil painting from *Mortimer and the Riddle of the Medallion* (1996), by Steve Plumb. This was the first and only children's game published by LucasArts (box art above).



Kid's Stuff

In trying to expand its markets, LucasArts has developed several titles aimed at casual gamers and children, including *Mortimer and the Riddle of the Medallion* (1996), *Indiana Jones and the Temple of the Crystal Skull* (1999), *Star Wars: Episode I: The Phantom Menace* (1999), *Star Wars: Episode I: The Gungan Frontier* (1999), *Star Wars: Yoda's Challenge* (1999), *Star Wars: Math-Jabba's Galactic Galaxy* (2000), *Star Wars: Super Bomber Racing* (2001), and *Star Wars: Droidworks* (1998).

institutionally because of [our customers' interest in] new projects." But education had long been a personal passion, thus, LucasArts was looking to combine technology and learning for its new LucasLearning titles)



Above: Venture into the casual-gamer markets created in titles such as *Indiana Jones and the Temple of the Crystal Skull* (1999) and *Star Wars: Yoda Stories* (1997).



Left: Concept art for *Mortimer and the Riddle of the Medallion*, by Peter Chou, circa late 1994.



Above: Box art for Full Throttle (1995), titled "A Heavy Metal Adventure."

Right, top: Cutscenes in Full Throttle were extremely well directed and acted.

Right: The biker face-off action sequence and puzzle stumped many players on the game's original release.

Bottom and opposite: Concept art for Full Throttle of the Vulture Cargo Plane (circa 1993) and Rothweiner biker (circa 1994) by Peter Chan.

As the PC games industry began to shift its attention to key genres such as 3-D graphics-powered first-person shooters, involved role-playing games, and real-time strategy titles, *Full Throttle* (1995) arrived to remind everyone that adventure games still held an important position in the hearts and minds of core gamers. Tim Schafer wrote, designed, and was the project leader on the memorable escapades of Ben Throttle, leader of the Polecats biker gang. But the game's road to production was not a foregone conclusion when Schafer first submitted the design for approval. Despite his vision and the well-received *The Curse of Monkey Island* and *Day of the Tentacle*, he and his emergent team's first game was not a sure bet. "I don't believe we grandly envisioned *Full Throttle* as a success, which was a bit of a pleasant surprise to us," they were very much aware. In addition,

"The game was presented as also far from easy. Full Throttle's adventure engine technology, as well from the 3D engine, was a new rendering engine, as well

BRING ON THE BIKER GANGS



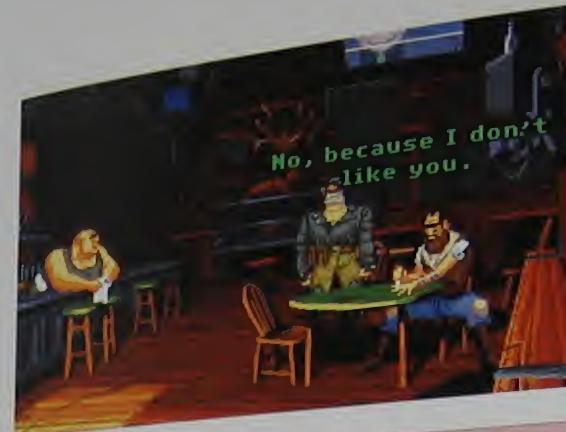
88 BURIED TREASURE 1995-1996



Right: Early character sketch of Ben Throttle by Peter Chan, October 1993

Opposite, top: Screenshot of Ben Throttle in the Kickstand bar from Full Throttle.

Opposite, bottom: Even the type treatment for the game's logo faced the rise of the pixel level through numerous revisions to get it just right.



"They hated it."

—Tim Schafer, designer, on management's reaction to his original design for Full Throttle

as the INSANE engine built by programmer Vince Lee to power Rebel Assault (see page 104). Because INSANE was originally crafted to power gameplay using full-motion video, the switch to the cartoon format of Full Throttle's art design created problems within the engine. Fortunately, these technical hurdles were part of a challenge that the team embraced as it concocted the tightly scripted, expertly paced story of Ben. The lead character also required just the right performance, which was found in Roy Conrad. I think Roy's voice was a huge part of making Ben Throttle a charming character, Schafer says.

The hard-nosed biker was certainly a change of pace and style from Monkey Island's Guybrush Threepwood and Day of the Tentacle's Bernard, both of whom Schafer describes as "lovable losers." Inspired by Toshiro Mifune's samurai in Akira Kurosawa's incredibly taut, stylized movie *Yojimbo* (1961), Schafer wanted a protagonist who was strong and *cool*. Conrad's voice was "deep and tough, but also gentle and funny," recalls Schafer.

Few adjustments.

• Thicken up the letters, (more blockier overall).

• widen the U a bit

• The T and the H needs some breathing space between them

• widen the H a bit.

FULL THROTTLE

• THROTTLE needs equal spacing. (A bit tight)
Just push everything that way

Thanks, Peter



Ultimately, its strong characterization, truly funny story, and rapid pace helped propel *Full Throttle* into the pantheon of great PC gaming experiences. While some critics derided its relatively short length at a time when many games offered more than forty hours of gameplay, *Full Throttle* could be completed handily within about six hours; this brevity meant that many players actually saw the ending. Schafer was told by many gamers that, "It's the only adventure game I've ever finished."

Today *Full Throttle* remains one of the most fondly revered titles among the LucasArts adventure stable. It even featured a voice-acting performance from one Mark Hamill (Luke Skywalker).

Above: Concept art for the juryrigged hovercraft in *Full Throttle* (1995), by Paul Chan (page 106).
Left: Freestyle BMX could wield a few weapons, including a chainsaw.
Opposite: Concept art of the Cavefiend gang by Chan (page 193).



BIG HIT SEQUELS

When a game proves to be a big commercial success, you can be sure that a sequel will follow quickly. So it was no surprise that a sequel to *Rebel Assault: Star Wars*, *Rebel Assault II: The Hidden Empire* (1995)—was released just two years after the original changed the face of the industry by helping to sell the potential of CD-ROM as a gaming delivery mechanism with increased data-storage capacity.

Vince Lee was able to improve once again on the technology that powered the sprites on *Rebel Assault*: full-motion video (the LucasArts' tradition of creatively naming technology had continued to *Rebel Assault* with the INTERactive Streaming ANimation Engine, which—if you squint a bit—spelled out the INSANE acronym). Lee's engine enhanced and compressed the video images to that point that higher resolutions could be achieved on the face of it. The core gameplay retained the "on rails" format of the original—meaning gamers just had to zoom in at the waves of enemy ships soaring in.



not worry about controlling their visual style, hoped that the improved range of displays would provide enough impetus to make it strong once more.

Hal Barwood was brought in to add the experience of shooting many more quick scenes directed the *Star Wars* live-action footage onto screen stage. Though Lucas had done his part to contribute shooting suggestions to the *Rebel Assault*, the successful treatment of *Rebel Assault II* combined with the success of the game, helped give a hands-off approach to the sequel's visual



video, even at the "multimedia" buzzword had begun to wane as a key selling point.

Among these ideas was a Hal Barwood design called Rapid Transit. Real-time 3-D graphics hadn't yet proven themselves a practical technology to pursue as they required specific video-card hardware. So with some life remaining in the multimedia approach, coupled with LucasArts' own expertise with video-based game design, Barwood outlined a point-and-click adventure that would use video. The story involved a BART (Bay Area Rapid Transit) train that enters the transbay tube (a local reference familiar to everyone at the San Francisco Bay Area-based company) and never comes out. Unable to garner enough internal help to flesh out the design, Barwood abandoned the project, forever shrouding what happened inside that tunnel.



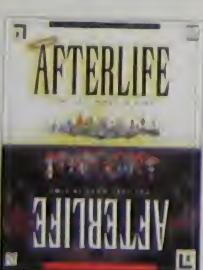
Above: Tracking device prop from *Rebel Assault II* cutscenes, made from an old calculator case.

Left, top: Cast and crew from the sequences filmed for *Rebel Assault II*, including project leader Vince Lee (standing in middle, with striped shirt) and director of live video Hal Barwood (crouched in front row right, in red shirt).

Left, bottom: Actors Jamie Lee Jones (left) and Julie Egeson (right) in stormtrooper costumes, on the set of *Rebel Assault II*, circa 1994.

Afterlife

Right: Concept art for *Afterlife* (1996), by Brian Rich, circa October 1994.



Strategy gaming remained a significant genre on the PC platform in the mid 1990s, but LucasArts had no games representing its brand in that space. *Afterlife* was a solution to that absence, and also a truly unique concept—one that involved building Heaven and Hell on an alien planet (thus avoiding potential controversy).



The slow maturing of improved video-compression technology and player interests limited the success of *Rebel Assault II*. It also had the technological limitations to explore new game ideas incorporating



LOFTY AMBITIONS

Bold ambitions sat at the heart of LucasArts' first foray onto a new console platform with the development of *Shadows of the Empire* for the Nintendo 64 (N64). "It was a multimedia project where [Lucas Licensing] would get comic artists, a novelist, and even do a soundtrack," recalls artist Jon Knoles.

As it turned out, just producing the game was enough of a challenge. The concept was to re-create the fabulous Battle of Hoth from *The Empire Strikes Back* (1980), but the design couldn't be tested on the host platform for about 18 months because Nintendo was still completing hardware production. For a while, speculation became a reality when the sys-

Above: The *Shadows of the Empire* story was also told through a novel of the same name by Steve Perry.

Right: Dark Horse Comics released a comic book based on the Nintendo 64 game *Star Wars: Shadows of the Empire*.

Right: Nintendo 64 box cover for *Star Wars: Shadows of the Empire* (1996).

Shadows of the Empire



Game designer Tim Schafer, who wasn't officially employed on *Shadows of the Empire* (1996), still receives a mention in the game credits. His contribution is listed as "Never Actively Tried to Sabotage the Project!"

"It came from the fact that we were a small company back then, and the projects really intermingled," Schafer says. "It basically means, 'Tim came around our office a lot and bugged us when he didn't feel like working on his own game.'"



delivered on its promised function, it became one of the first games released for the N64 (it was a launch title when the N64 arrived in March 1997)—and was a huge hit.

This early adoption of a console platform in part LucasArts' response to a feeling they missed out on some earlier opportunities by embracing popular machines sooner, such as the original PlayStation. And past success on the PC and SNES with *Star Wars*-themed games helped establish a positive working relationship with Lucas. (The LucasArts name had little awareness among PlayStation owners, however, despite the company's brand association.)

"We had no great programmers," Schafer explains Mary Bahr about the company's initial development, "so we decided to do port of Dark Forces and Rebel Assault II, along with a racing game [Ballblazer Champions, 1997] based on the original." These products allowed LucasArts to enter a new market, and to plant initial seeds in the console game market with an audience that was familiar with its heritage as the PC game industry.

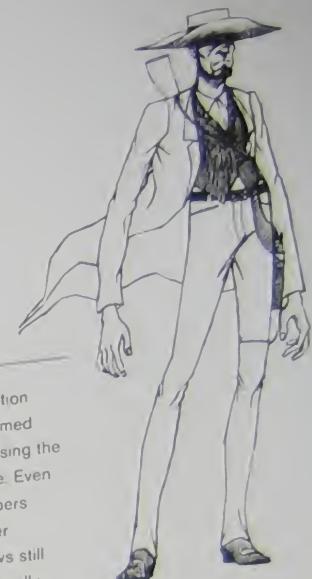


Outlaws



The original production of this Western-themed shooter was built using the Dark Forces engine. Even though the developers upgraded that older technology, *Outlaws* still suffered technologically when compared to peers in the shooter genre. With the PC audience feeling hungry for 3-D graphics,

many of them overlooked what was actually a keenly told story in a setting that has been woefully underserved across the videogame industry. *Outlaws*' multiplayer element was simple, but its unique environment, coupled with the varying abilities of its six playable characters, produced a deeply committed fanbase.



Above: Character sketch for *Outlaws* (1997), artist unknown

Far left: Storyboard concepts for *Outlaws*, artist unknown

Below: Despite some serious themes in the Western setting, *Outlaws* maintained a few in-jokes, including Max of Sam & Max fame hidden away in one building



Top: Box art for *Star Wars: Dark Forces II - Jedi Knight* (1997)

Above: October 1998 issue of *GamePro*, with a *Star Wars* game round-up

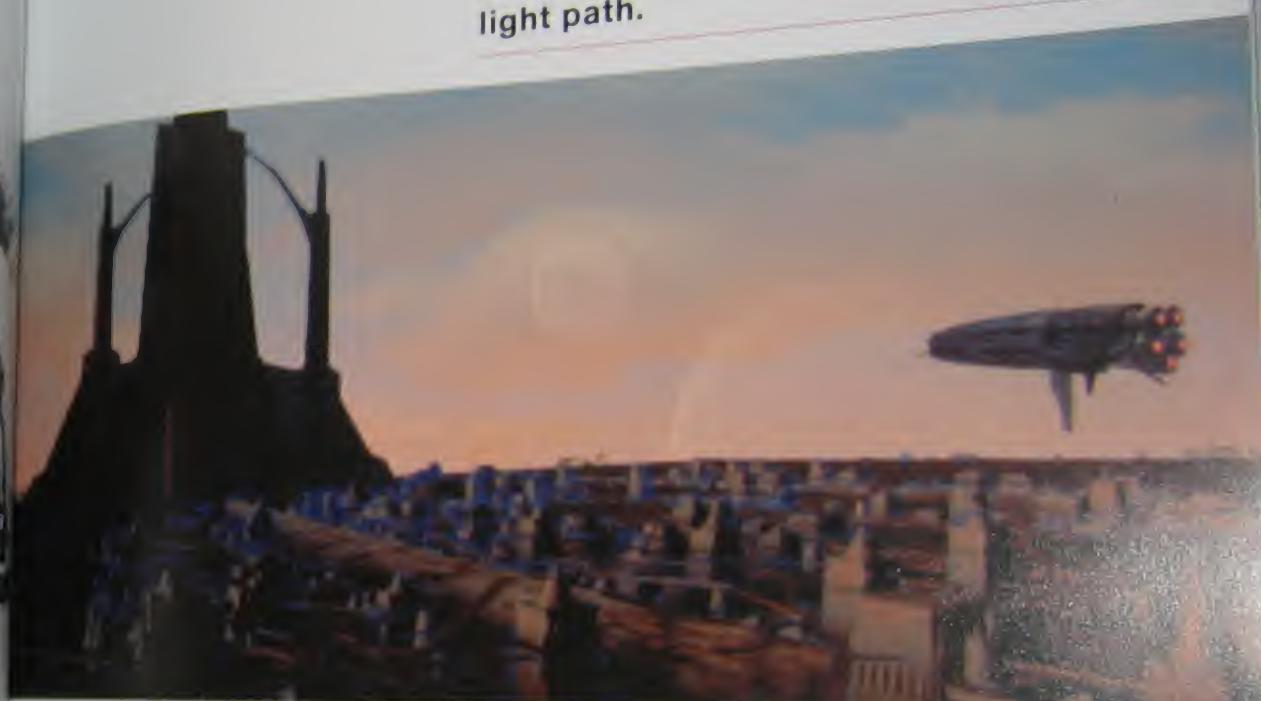
Right: Concept sketch of boss enemy in *Star Wars: Dark Forces II - Jedi Knight* by Peter Chan, January 1996

CREATING A JEDI KNIGHT

In videogame development it's oft noted that there are "lies, lies, and release dates."⁴ The moving targets of new PC graphics-technology standards, coupled with the intrinsic difficulty of evolving a game-design process into a true 3-D era, resulted in the hugely anticipated *Star Wars: Jedi Knight - Dark Forces II* being delayed until 1997. The PC-games enthusiast press had latched onto every morsel of information about what this Dark Forces sequel promised to deliver, generating incredible hype among the community through numerous magazine cover stories. But the wait was worth it, with the result emerging as one of the most critically acclaimed games of the era.

At this point in time, the PC was becoming another game developer's go-to system for the foundation for building cross-platform titles to catch on. The Quake engine was becoming significantly licensed, and the success of Jedi Knight's initial development on the PC raised the ambition level for developing a game that went beyond what a third-party developer would have been able to supply. No other game at the time, the Force, and Force powers, Jedi Knight gave PC gamers all those new joys to play with, and it supported the single-player experience with a supremely engaging online multiplayer element.

Pushing the storyline set up in the original Dark Forces, Jedi Knight used about an hour of live-action-video cutscenes to show your interactions with other characters in plot-advancing moments. Jedi Knight also helped revolutionize narrative techniques that wove the story into the all-out action of a first-person shooter. How? By introducing moral decisions that actively impacted the player's abilities in the game.



The incredible twist to this story was in how the player could manipulate the game world down a dark or light path.

world decisions that also affected how the final mission played out.

As the game title implies, Kyle Katarn becomes a Jedi, gaining the powers that go with that exalted position. The incredible twist to this story was in how the player could manipulate the game world down a dark or light path. Killing civilians would direct the camera down the dark path. But the player could choose to learn new Force powers from either side of the moral fence, such as Force Healing (light) or Force Lament (dark side). While the game offered ten additional flexibility in the powers learned throughout most of its compelling courses, a key plus point in the Jedi stages made you pick a path,

and that decision directed you toward one of two distinct endings. The technical complexity of modern games made this form of "multiple-path or multiple-ending" design mechanism (which LucasArts had helped pioneer) more difficult to execute, and thus increasingly uncommon.

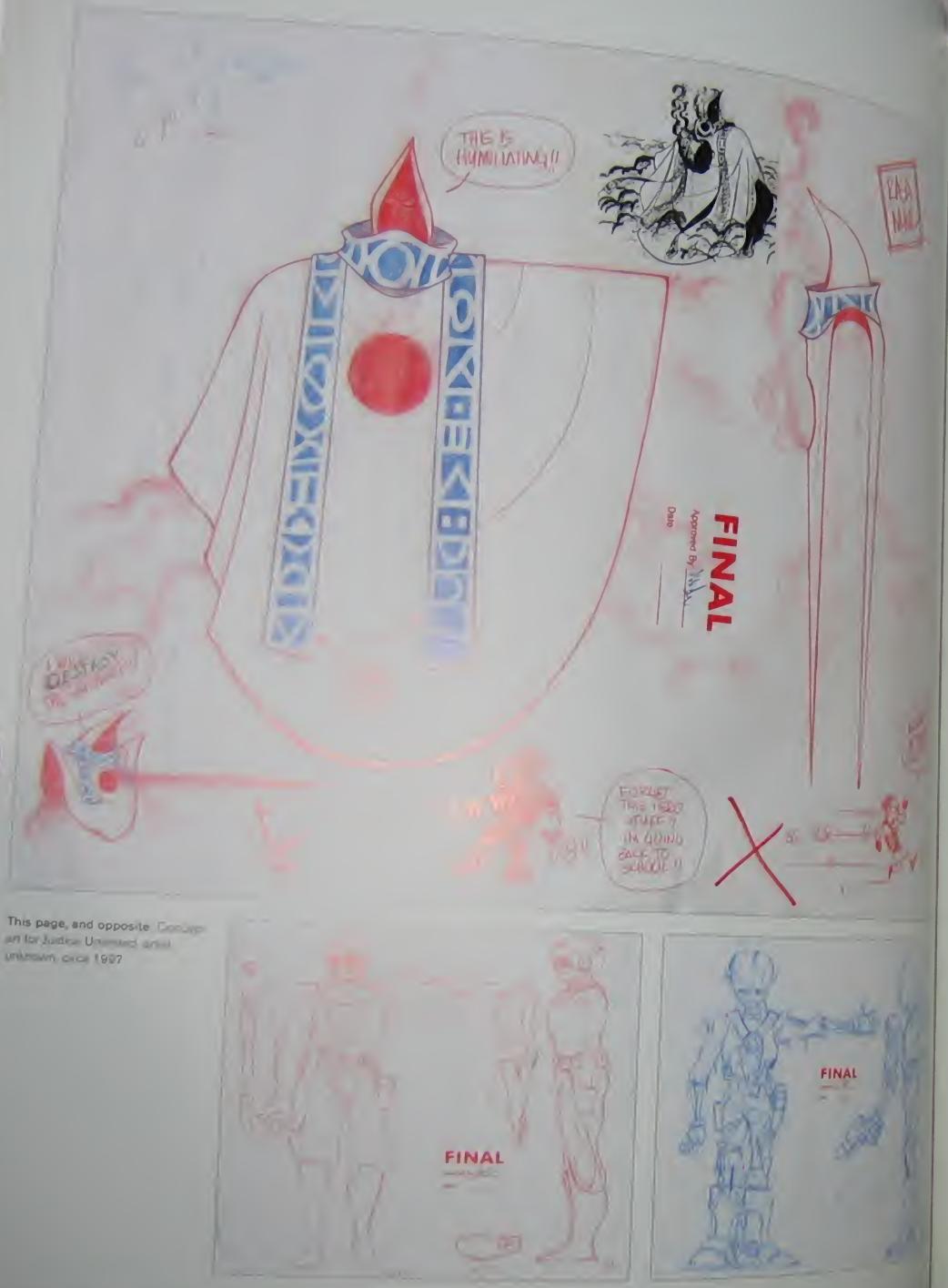
In addition, the elevation of Kyle Katarn to Jedi status meant that the hero would now be able to wield a lightsaber. Jedi Knight's developers introduced an effective gameplay mechanic that would allow the player to view the character from the third person, rather than the familiar first-person perspective used when moving and shooting with traditional weapons. This vantage point enabled players to see



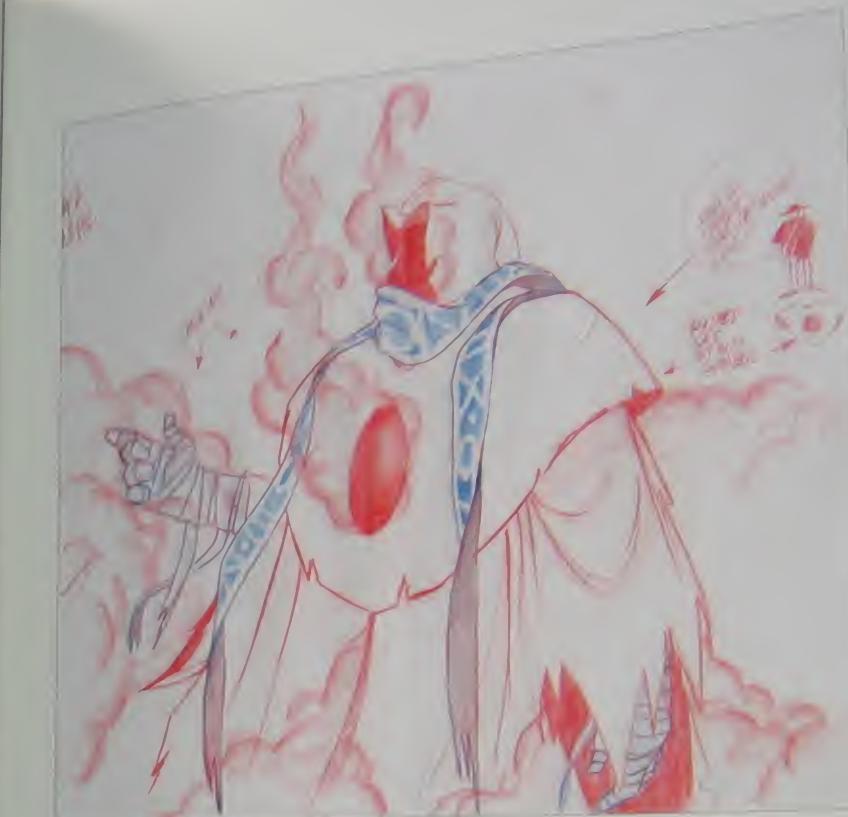
Top: Movie-like cutscenes were created to add cinematic styling to the Jedi Knight story.

Above: After the success of the original Dark Forces, the first announcement and screenshots of sequel Jedi Knight graced the cover of PC Gamer.

(continued on page 113)

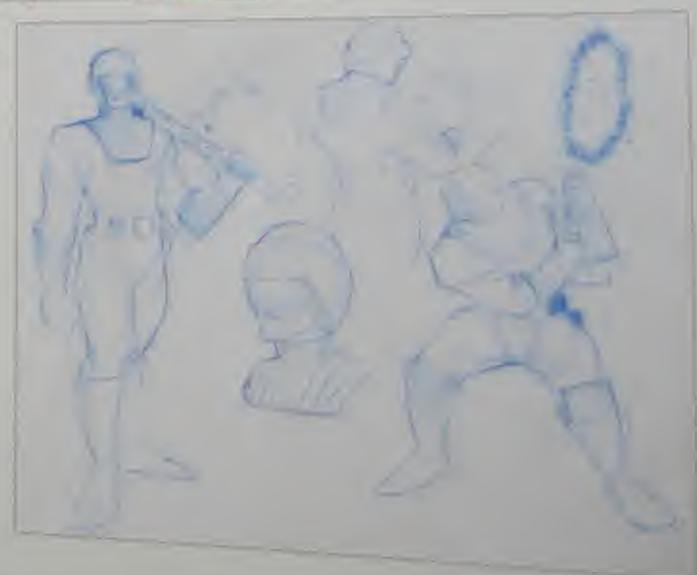


This page, and opposite: Concept art for Justice Unlimited, artist unknown, circa 1997



Justice Unlimited

From 1997 to 1998, LucasArts worked on a game concept meant to challenge Blizzard's popular *Diablo* action-RPG game. The entire concept was essentially 'Diablo, except with superheroes,' recalls LucasArts designer John Stafford. Lots of concept art and story was generated for the game, but no work was completed on a game engine, and the idea was shelved.





in basic theory and practice of the lightsaber. Defining moves they had long desired such as how Palpatine moves lightsabers around the chromatogram palette of his Jedi in the hands of gamers. Previous action games were built around boasting in terms of heroic powers – of being a one-man army – and Jedi Knight delivered the ultimate champion of this. It was largely remarkable. Also, blurring LucasArts familiarity with the nature of the Star Wars universe, this Jedi could use the Emperor-like force abilities, lightsaber powers and even become invincible. Its power could move in the galaxy and it made the

experience more fun, then it was able to pass master and give gamers the experience they truly wanted.

Through a partnership with Microsoft to use its Internet Gaming Zone software so gamers could meet and set up online matches, Jedi Knight also made the leap online, with gamers fighting each other across maps with force powers, slashing with lightsabers, and flexing every Jedi power at their disposal. The combination of engaging, expertly paced single-player action, and a new online multiplayer mode helped propel Jedi Knight to the vaunted status as the most critically acclaimed game to be produced thus far by LucasArts.

Forward to page 116

Above: Concept-art for Jedi Knight, by Peter Chan, circa 1995.

Opposite: Concept-art of the main villain in Jedi Knight, by Chan.



Above: Box art for *The Curse of Monkey Island* (1997)

Top, right, and opposite: A series of 3 x 5-inch index cards storyboarded the entire plot and action sequences for *The Curse of Monkey Island* (artist unknown).

Curse of Monkey Island

The Curse of Monkey Island was the last game to use the SCUMM engine, which had become increasingly irrelevant in the face of PC gaming. The company's financial situation was dire, and the future of Monkey Island was in serious doubt. The game was struggling. The enduring popularity of the first two games, however, meant that the third appearance of Guybrush Threepwood was still a priority and a concern for many fans. Shiro Gilbert, the lead designer at LucasArts, was worried from the company, so design director Michael "Ackley" Ackley, who had been working with Tim Schaefer on the first two games, said, "But there was no need for worry, as *The Curse of Monkey Island* (1997) delivered a classic adventure experience that impressed both fans and Gilbert himself, who recalls: "The third *Monkey Island* was great. I thought they did an excellent job of capturing the humor and feel of the game."

Curse also represented the last outing for the SCUMM engine, which had delivered so many classic games, signing off the venerable scripting tool's legacy with a suitably high-quality experience.





MEXICAN DAY OF THE DEAD?

Whereas Tim Schafer had to rework the initial design for *Full Throttle* so it would be greenlit, "Grim Fandango was a breeze," the game's designer says. That may come as something of a surprise for a concept inspired by the Mexican holiday *Dia de los Muertos* (Day of the Dead) — hardly mainstream in the U.S. — but such was the reward for having delivered a critical darling with his previous title.

However, the days of 2-D adventure-game development were over. *Grim Fandango* (1998) required a true 3-D engine, and so was born Grim. While using some elements of the SCUMM



Above: Box art for *Grim Fandango* (1998)

Top: June 1998 initial of PC Games, with a *Grim Fandango* cover story.

Far right: Screenshot of Moche taking off her cloak in front of Manny in *Grim Fandango*.

Right, top: Screenshot of Manny and the clown making unusual balloon animals.

Right, bottom: Screenshot of Manny and Stomé with their hopped-up car, ready to "scoot like heep... on pogo sticks!"

With the proliferation of 3-D graphics cards for PC gaming, Tim Schafer's final opus, *Grim Fandango*, took the adventure genre into the third dimension.



scripting system, this new engine enabled character Manny Calavera, travel through the Department of Death, to move throughout the scene in full 3-D. The challenge of translating technology for an original (and highly creative) game established *Grim Fandango* as a breakthrough for LucasArts. "Somehow, Tim pulled it off," says public relations manager Tom Sarris, who had to communicate this unusual concept to the press. Dealing with such a specific cultural reference brought its own potential problems, as do some issues endemic to the game's film noir style. According to Sarris, concerns arose about showing certain characters smoking. "Our answer was: 'Well, why? The characters are already dead!'" he recalls.

Grim Fandango's quirky setting and art style, along with Schafer's reputation with the press, generated generally positive reviews. Unfortunately, that goodwill didn't translate effectively to retail, where the game failed to produce the sales its budget and its positive reputation warranted.

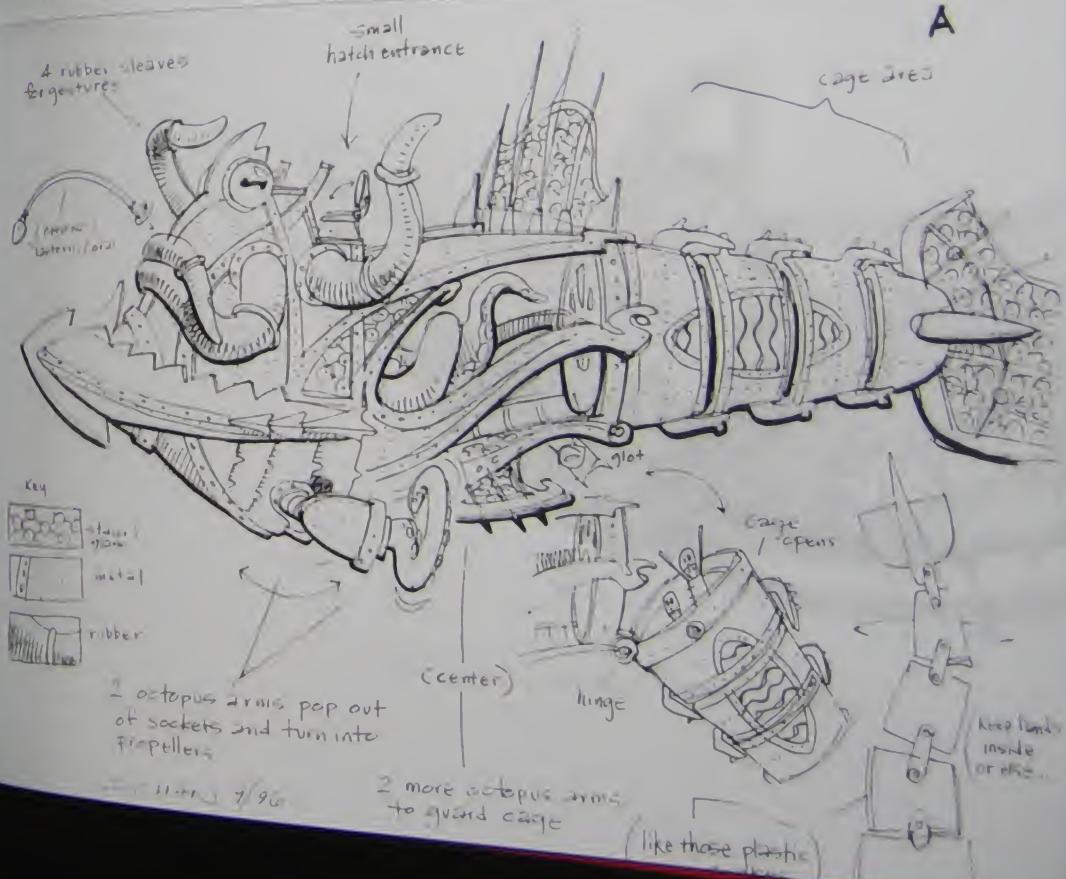
Internally, *Grim Fandango* also impacted projects in early development at the same time. Another Barwood game design had made it onto the department roster, but it, too, was eventually canceled. This project was set in the *Star Wars* universe.

Concerns arose about showing certain characters smoking. "Our answer was: 'Well, why? The characters are already dead!'"

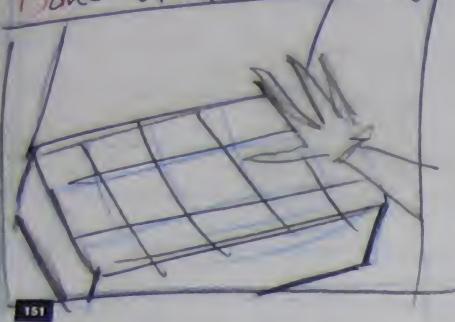
— Tom Sarris, public relations manager

So-called *The New Empire*. It takes place after the end of the original trilogy when the Emperor had been overthrown. Rumors around the galaxy that a new Emperor is to be named cannot be confirmed. A GPO agent is sent to find out what is happening. That night, C-3PO. The premise was that in a disorganized Empire, the innocent-looking protocol droid would be the perfect spy to slip around each location.

Pages 118–119: Storyboards for *Grim Fandango*, by Peter Chan
Pages 120–121: The full game character cast poses for a memorable "photograph" with *Grim Fandango* project leader Tim Schafer (bottom left), keeping order
Below: Early concept art of the octopus-powered submarine for *Grim Fandango*, by Chan, September 1996



Manny opens the ticket
suitcase on the ground.
151 one of the tickets jumps out, crawls up Meche's sleeve and into her shirt. Manny stands up and walks to the case.



151

Meche rides up the escalator



152



152

Raven flies out. Scary!

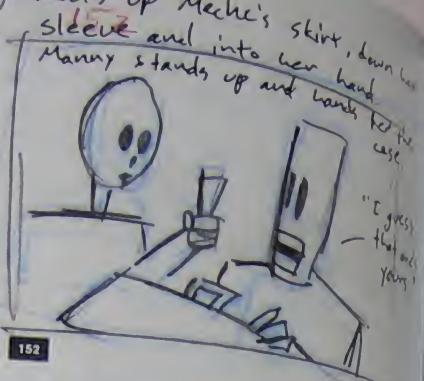


155



156

tosses the suitcase down the escalator



157



159

159

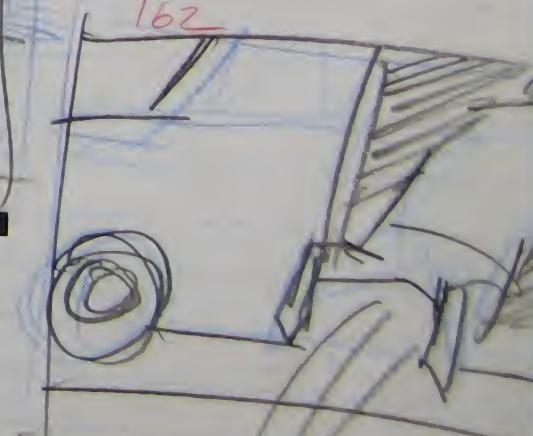
160



161

Sort of Manny's P.O.V. looking into the car. Olivia is driving and she yells back to him.

162



Manny dives into the back seat w/ the suitcase.

162





CHAPTER SIX

THE EMPIRE EXPANDS

1995–2000

The presence of LucasArts on the PC platform was a storied, award-winning—and a foundation for the critical and commercial success of many great games. But brand awareness among console gamers was somewhat less prominent, which resulted in a lack of new game ideas conceived to appeal to the primary interests of that audience.

One such effort was the release of *Star Wars: Masters of Taris Kast* (1997) on the PlayStation. It was a fighting game that pitted the big stars of the *Star Wars* universe against each other. Despite a convoluted story that tried to explain why, say, Luke Skywalker was duking it out with Boba Fett in a ring, the setup just didn't make sense for gamers. In the coming years, this release did serve as a reminder that

simply attaching the *Star Wars* name to a game wasn't enough; if the game wasn't right, even the most iconic characters expected by the broader audience would undermine the objective of establishing LucasArts as a mainstream purveyor of quality gaming on multiple platforms. The *Star Wars* attachment didn't add any real weight at retail, however, as *Taris Kast* proved to be one of the most unsuccessful *Star Wars* games of the holiday season.

Meanwhile, LucasArts and Neversoft had forged a strong relationship. LucasArts had had modest success with its releases on that platform, the installed base of N64 console owners being a limited audience compared to the potential in mainstream-adopted PlayStation players. When developing games for multiple platforms, LucasArts realized that the familiar PG audience for console



console gamers had differences in expectations. Fundamentally, PC gamers were hardcore, competitive, and dedicated to their platform, and they expected their measure of good design to be resolved in LucasArts releases. But the console audience had a more casual attitude, which needed to be reflected in game design for those platforms, both N64 and PlayStation.

This attitude insight about an important change in the N64 game *Star Wars: Rogue Squadron* (1998). This dog-fight shooter was being developed by an external studio called Factor 5, and it originally had Wedge Antilles in the pilot seat. However, president of Lucas Licensing Howard Roffman suggested that because the game was directed at a broader audience, why not make the lead character Luke Skywalker? The PC audience sat up and noticed tangential characters from the *Star Wars* galaxy.



Above: *Star Wars: Masters of Taris Kast* (1997)

Far left (top and bottom):
Concept art of Boba Fett in a lightsaber
Star Wars: Masters of Taris Kast,
artist unknown

Left (top and bottom): The cartoon
characters shown in these screen
grabs from *Star Wars: Masters of
Taris Kast* look off the beat-worn
aesthetic. The game applied the *Star
Wars* brand to a juvenile game
genre, but with limited success.

"We were nuts to do what we were trying to do."



Above: Box cover for *Star Wars: Rogue Squadron* (1998).

Factor 5 has a long history of working with LucasArts, going back to the days of Lucasfilm Games. Starting in 1989, they licensed games for the German market from their offices in Cologne with publisher Softgold/Rainbow Arts. In 1992, they had the opportunity to develop the SNES game *Indiana Jones: Greatest Adventures* (1994), a spiritual successor to the Super Star Wars series developed by Sculptured Software. This was followed by *Battlezone Commander* (1997) for PlayStation. In May 1996, Factor 5 moved to San Rafael, California, to be closer to LucasArts, where the studio remains to this day.

Right: October 1998 cover of *Next Generation* with a preview of *Indiana Jones and the Inferno Machine*, new screenshots of *Star Wars: Rogue Squadron*, and information on *Star Wars: Force Commander*.

Bottom: Special issue of *Star Wars X-Wing Rogue Squadron* comic, published by Dark Horse Comics, August 1995, cover art by Markus Harrison.

but that wasn't necessarily the case for the console crowd. According to marketing director Mary Bahr, the developers were reluctant to make the change, in part due to certain restrictions it would place on character development (they found it easier to build backgrounds they liked to off-center characters than to get creative with the franchise's core legends). But Factor 5 eventually capitulated.

Rogue Squadron succeeded in taking the explosive action of the Rebel Assault games out from restrictive rail and gun-freeform, free-roaming environments. Suddenly the cockpit of a X-Wing was your playground as you flew the ship wherever you wanted. Supported by a level of detail not possible in the graphical capabilities of the time, *Rogue Squadron* went on to be a hit for the company. It was so popular, in fact, that available copies were snatched up by the game media, who would then review the game for review, scrambling to get a copy.

Meanwhile, on the PC platform, Tom Grammer's *X-Wing* followed in the footsteps of the X-Wing franchise with a massive online base of attachable modders. One of these was the *X-Wing vs. TIE Fighter* (1997), which focused its gameplay on a multiplayer premise of flying for the Rebel Alliance or the Empire. The game took advantage of the latest PC graphics technology, but the absence of a single-player story



which had brought so much fan support to the first two games in the series, resulted in a following the hardcore audience. In developing the game, Grammer faced a huge technical challenge in adding online multiplayer gaming at a time when Internet technology was still in its infancy.

"We were nuts to do what we were trying to do," says Holland. Though the group believed the potential of bringing eight-player space combat to the PC, the three-person programming team often worked until four or five in the morning trying to figure out workarounds for the issues and packet drops (a problem with the Internet that needed to flow smoothly between computers connected over the Internet). Holland and his



team were so confident that they had solved the first problem, only to return later to the program to discover that it was still broken. What he discovered was the pattern of Internet traffic. The dark areas in the dead of night see fewer users online, allowing the dark packets to transfer more quickly and cleanly, but when everyone were logged on during daytime hours, the increased traffic clogged the packets of smooth data transfer. For game play, players that meant the ships warped and disappeared, making it almost impossible to get a head-on course, or a precise in-flow precision was a key requirement for gaming.

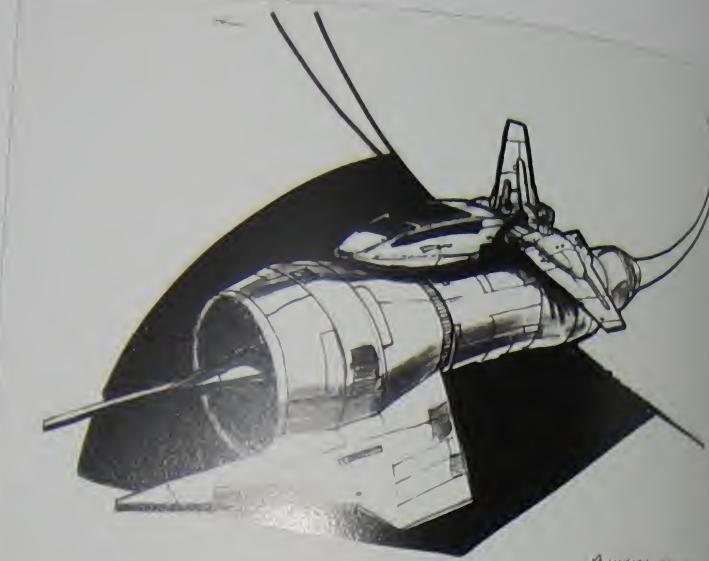
Core features of *X-Wing vs. TIE Fighter*'s game design increased the challenges faced in addressing data-transfer issues. Other online multiplayer games of the day contained the player within hallways and other enclosed spaces; consequently, smooth movement mattered only when opposing players could see each other on the screen. If they were in different parts of the map, then packet drops wouldn't be noticed—but that wasn't the case in the wide-open expanses of space, where every latency lag would be visible to each player. "To have eight people play a high-action game where the smallest error was impactful... was deviously difficult," Holland recalls. "It was the worst case possible."



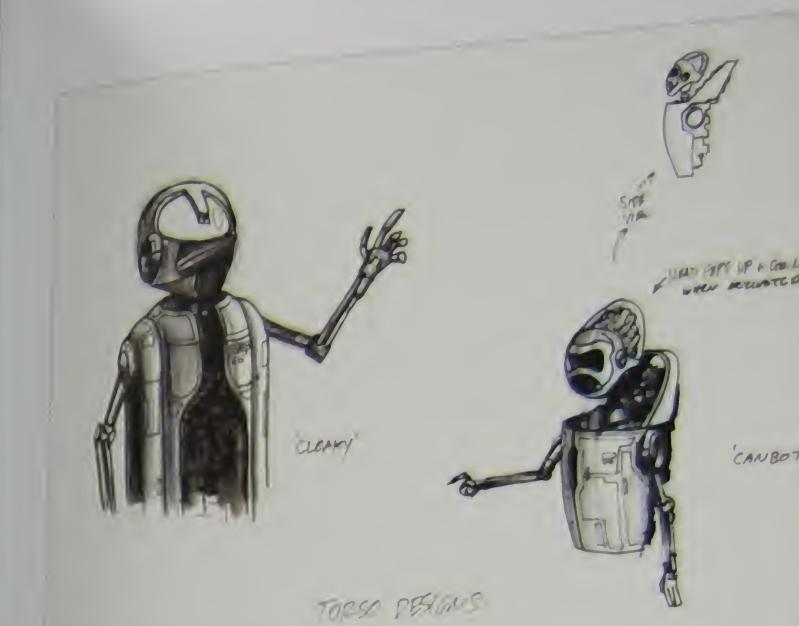
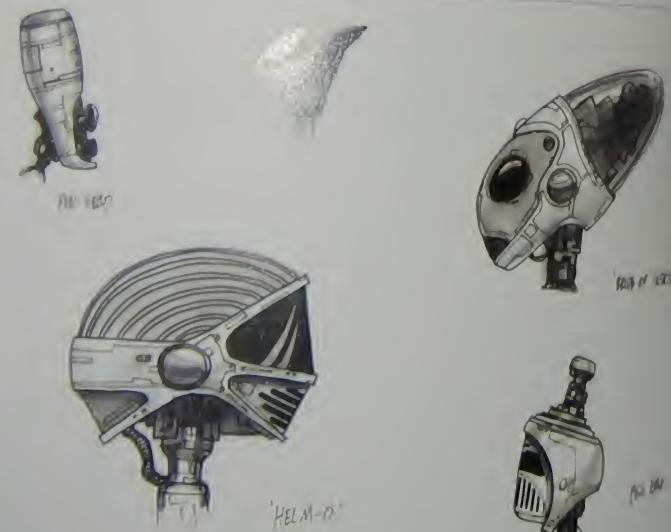
Above: Box art for *Star Wars: X-Wing vs. TIE Fighter* (1997). Top: Larry Holland's impressive collaboration of the X-Wing and TIE Fighter planes pushed PC multiplayer technology to their heights. Shown here is a screenshot from the *TIE Fighter* cockpit.

Top: Concept art for the planetary fighter proposed for Star Wars: X-Wing Alliance (1999), by an unknown artist at developer Totally Games. The design was rejected by LucasArts because the big engine was coincidentally similar to new designs debuting in Episode I.

Bottom and opposite, top:
Concept art of droids, by unknown artist at Totally Games, circa May 1998.



PLANETARY FIGHTER



TORSO DESIGNS



For gamers able to connect to each other, there was the option of a Local Area Network (LAN), where Internet latency issues were virtually negated—the sparring battles were intense, and watching the bouting on enemy ships, then watching it through the lens of your own ship, proved frustrating for the systems of gamers.

The team had further solutions to the latency problem by the time *Star Wars: X-Wing Alliance* (1999)

went into development. Amazingly, the flight-simulator technology on which *Battlehawks* (1992) had remained at the heart of Totally Games' engine all the way through *X-Wing Alliance* (racking up seven games in total). In *Alliance*, it helped power a story inspired by the film *The Godfather* (1972), where protecting a family business presented a fresh take on the military focus of fighting in the *Star Wars* galaxy. Multiplayer mission-based objectives also presented a unique experience for online gamers. The deathmatch free-for-all would allow X-wings, TIE fighters, and other craft to battle each other for supremacy. But the more intriguing game mode involved complex scenarios of attacking, defending, and protecting a starship. “Trying to create the whole battle was [tricky]... it was hard to get it to work right,” notes Holland. Fortunately, their efforts were successful, as countless online battles provided the hardcore fanbase with near-endless replayability for their Rebel-versus-Empire showdowns... a fitting note on which to bring such a minor franchise to a close.

Continued on page 102



Above: Box art for *Star Wars: X-Wing Alliance* (1999).
Left: Screenshot of a battle with an enemy TIE fighter from *Star Wars: X-Wing Alliance*.



Above: Box art for Indiana Jones and the Infernal Machine (1999).

Right: Concept art for Indiana Jones and the Infernal Machine, by Lili Mai Nguyen.

Below: Concept art of the King-Spin's Maw level by Bal Tille, and environment inspirations for Indiana Jones and the Infernal Machine, by Mai Nguyen.

Indy in 3-D

After the release of *Jedi Knight* in 1997, LucasArts possessed a 3-D engine that it used to bring *Indiana Jones* back to gamers. By this time, Lara Croft—Tomb Raider heroine and brand-new cultural icon of the digital world—was often referred to as “Indiana Jones” because her adventures bore remarkable similarities to those of the whip-wielding archaeologist. *Indiana Jones and the Infernal Machine* would deliver the real deal, though, and after the end of World War II, all Cold War players could search for the ancient Tower of Babel for nefarious purposes.

Designer Hal Barwood was initially dubious of the 3-D technology available for the console. “It took us a long time to figure out how to put Indy into a 3-D world with a third person view,” he says. “It opened the way for original design ideas, but the engine wasn’t as easy as it could have been.” Barwood, who points out that the team had to intentionally introduce technical bugs in order to use the engine for its original purpose. After rewriting the collision-detection code,



“or four times, the developers took pride in it,” Barwood says. “[The Infernal Machine] has some of the finest level design and the most interesting experiences that I’ve ever encountered in a game.” “I just think it’s wonderful, but it’s always been mainly a technical problem,” adds Barwood.



Above and left: Screenshots from *Indiana Jones and the Infernal Machine*, illustrating Indy’s first adventure playable in a 3-D environment, including, clockwise from top, the exploration of ancient ruins, fighting back snakes, confronting Nub, the robot guardian, and searching underwater for the fighter plane.

"The goal for us was to make it feel like an eyeball-peeling racing game, where you're going so fast you're just nervous."



Above: Box art for *Star Wars: Episode I Racer* (1999).

Top: Concept art for *Star Wars: Episode I Racer*, by Peter Chan, circa January 1998.

In 1998, the division of the LucasArts Entertainment Group that was turning to Episode I, *The Phantom Menace*—the first film in George Lucas' new *Star Wars* trilogy. Games inspired by the movie series were definitely part of the launch plan, but the big question was, What game types would they be? Lead artist Jon Knole recalls seeing some conceptual art from the film, with images of giant engines with Pods hanging between them. The team was told that the concept for these Pods was that they would race like the horse-drawn chariots in the film *Ben-Hur*, but at 400 miles per hour. "And I thought, 'Geez, well, there's a game right there,'" says Knole.

Diving into the development of a racing game presented challenges for a studio that had never before flexed its design talents in this genre. Flight-combat games and 3-D games had been a part of

LucasArts' back catalog, but racing games were both with a new engine that would capture the speed and feel of the Podracer. "It would not be easy," Akemi Nakamura remembers, "we realized that we would need to make a great racing game, and we had never done it before. We [had] to make it as deep as a lot of the car racing simulators out there."

So the idea drifted away from re-creating the Podracer to a racing game that could take place anywhere within the galaxy arriving in different sizes and the biggest stages. "The goal for us was to feel like an eyeball-peeling racing game, where you're going so fast, you're just nervous," says Knole.

Because early tests of the game's physics couldn't really give a cockpit perspective, one game designer decided to make a cockpit with his two big dogs and a leash. "Two leashes and some crew in there with the pull of barely controllable force. We had to experience later to design the interface with the Pod—which contributed significantly to speed-based expenses."

Originally conceived as the first *Star Wars* game's name had to change when it was discovered that another company owned the names with "pod" in the title. The game became *Star Wars: Episode I Racer* (1999), and with movie fans who could afford to pay for piloting the superspeed Podracers.

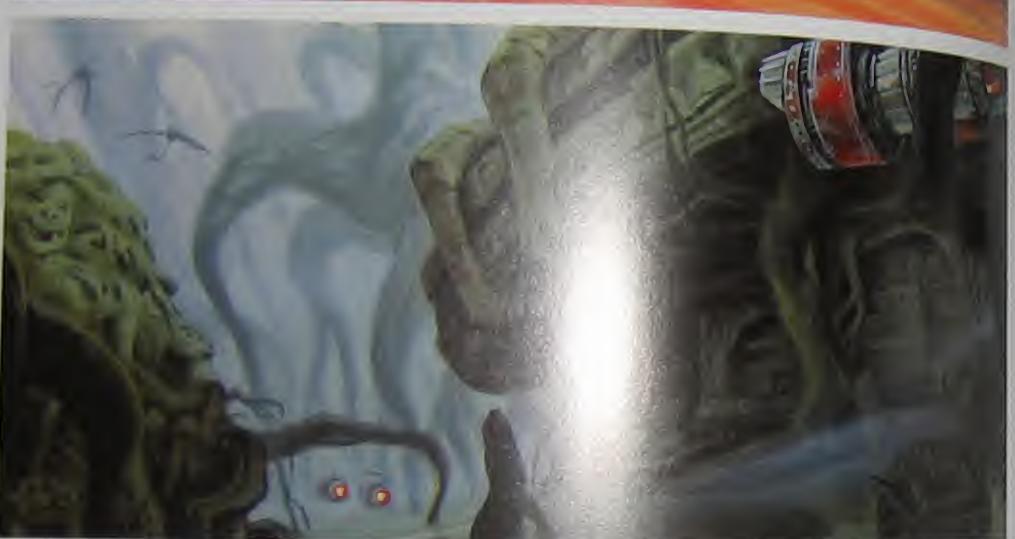


Far left: Unknown character art from Peter Chan, March 1998.

Left, top and middle: Racer track environment concepts by Chan, January 1998.

Left, bottom: Schematic of the Ando Prime racecourse from the PC version of *Star Wars: Episode I Racer*.



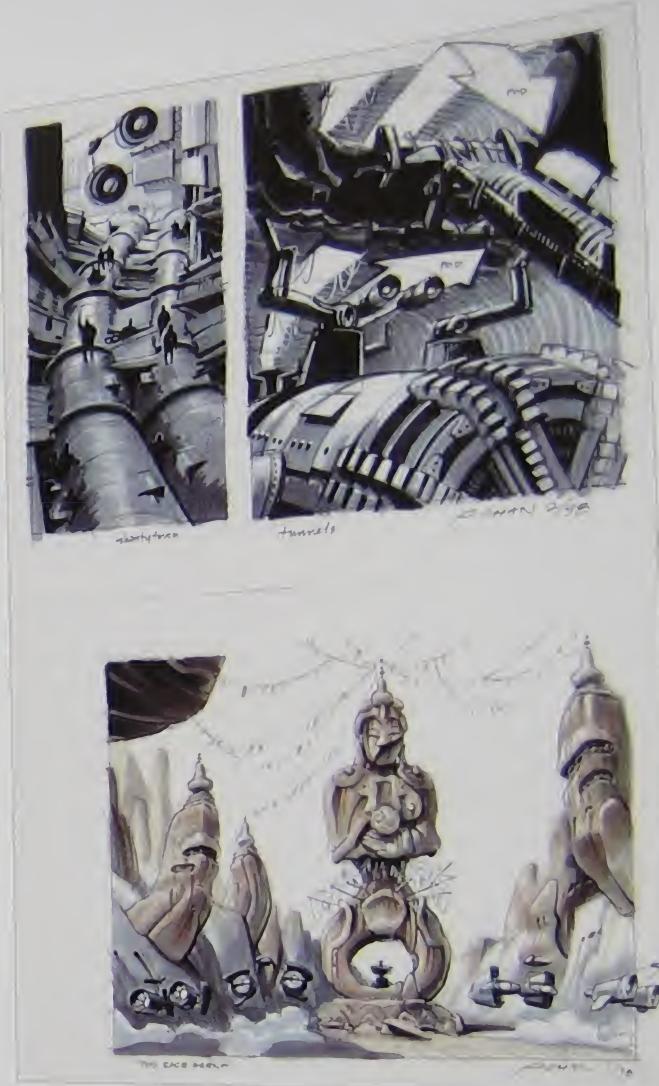


THE PHANTOM MENACE GAME

Creating a game that directly followed the movie's story proved to be an even greater challenge than *Racer*. With Episode I still in production and the script still to be finalized, scenes that the team needed to create for their project were in transition.

LucasArts president Jack Sorenson and prequel trilogy producer Rick McCallum worked together to minimize bureaucratic red tape involved in seeing *Episode I* content. But the scarcity of definitive *Episode I* information meant that the game designers were kept to a tight plan, and required to follow very specific directions. Consequently the game design kept changing right up to the ship date.

Back in the early days of the company, when a handful of enthusiast gaming magazines talked directly to the hardcore gaming audience, a live marketing event that LucasArts hosted might have drawn fifty attendees, maybe a hundred. *Episode I* was a different beast, as the movie (and by extension, the game) was plastered across magazine covers, ranging from the expected science-fiction and videogame publications to more mainstream titles like *USA Today*. Part of the movie marketing had involved



the creation of psychographic models that divided the audience into categories, and the success of the film was attached to the ability to attract the attention of those demographics outside the anticipated core market.

Despite the media frenzy that went way beyond the company's marketing dollars— the whole world seemed to be on the edge of its seat— LucasArts decided to release the *Star Wars: Episode I: The Phantom Menace* adventure game only for PG and

Above and opposite: Concept art of the tracks for *Star Wars: Episode I Racer*, by Peter Chan, circa early 1998

Above left: Screenshot from *Star Wars: Episode I: The Phantom Menace*, showing a Jedi defending himself against a group of battle droids



Top: The characters from *Star Wars: Episode I - The Phantom Menace* were digitally re-created (even the digital characters, such as *Obi-Wan*) for use in the game. Above: Still art for *Star Wars: Episode I - The Phantom Menace* (1999).

Top: Still art for *Star Wars: Episode I - The Phantom Menace* (1999).

Top: The characters from *Star Wars: Episode I - The Phantom Menace* were digitally re-created (even the digital characters, such as *Obi-Wan*) for use in the game.

Right: Screenshot from *Star Wars: Episode I - The Phantom Menace*.

Shortly after *The Phantom Menace* game shipped, two more titles themed alongside the blockbuster movie were produced for the console platforms. *Star Wars: Episode I - Battle for Naboo* (2000) was slated for the N64; and *Star Wars: Episode I - Jedi Power Battles* (2000) provided gaming options for both PlayStation and Sega Dreamcast gamers, right



as the latter platform was debuting early in marketplace. Other console releases tended to often failed to take advantage of the new audience awareness of the *Star Wars* films; clear that a shift in high-level thinking was to re-establish the link between LucasArts and revitalized *Star Wars* franchise.

Misses and Hits

Just hours and after *The Phantom Menace* was released, anticipation of the new *Star Wars* prequel trilogy mounted to a fever pitch. LucasArts aimed to release a branded game in every conceivable genre.



Star Wars: Rebellion
This attempt to craft a game involving strategic domination of the galaxy failed to impress gamers and critics, and upon release it was quickly consigned to the bargain bin. The strategy gameplay mechanics were deep and intricate but uninteresting to a broader audience. Illustrating the vagueness of game development, *Rebellion* (1998) was released in the same year that *Star Wars: Episode I - The Phantom Menace* (1999) would gain huge critical success.



Star Wars: Force Commander
LucasArts made another attempt at the booming PC strategy market with *Force Commander* (2000). But the promise of commanding battalions of AT-ATs in massive skirmishes with infantry and aerial units failed to deliver the promised dopamine. A graphical engine with dated-looking models and a clumsy control interface turned an otherwise promising game—but they wouldn't have to wait long to get another game that would let them explore the bustling units and massive military command scenarios of the epic *Rebel* vs. *Empire* conflict.



Above: *Star Wars: Rebellion* (1998) placed the *Star Wars* universe and characters in a detailed strategy simulation, seen here with a commanding *Rebel* admiral C-3PO.



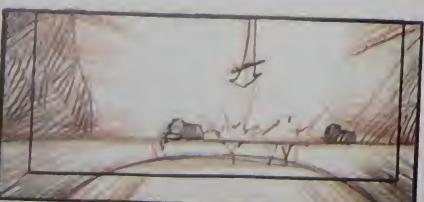
Left: Screenshot from *Star Wars: Force Commander* (2000) showing deployment of Mon Calamari.

Battle for Naboo Storyboards
Level 14 page 4

ENDING CUTSCENE



Battle for Naboo Storyboards
Level 8 page 3



Camera Zoom in



Battle for Naboo Storyboards
Level 5 page 2



Kael: The Hutt might have the weapons we need to recapture Theed. CKAW002

L5 Closing



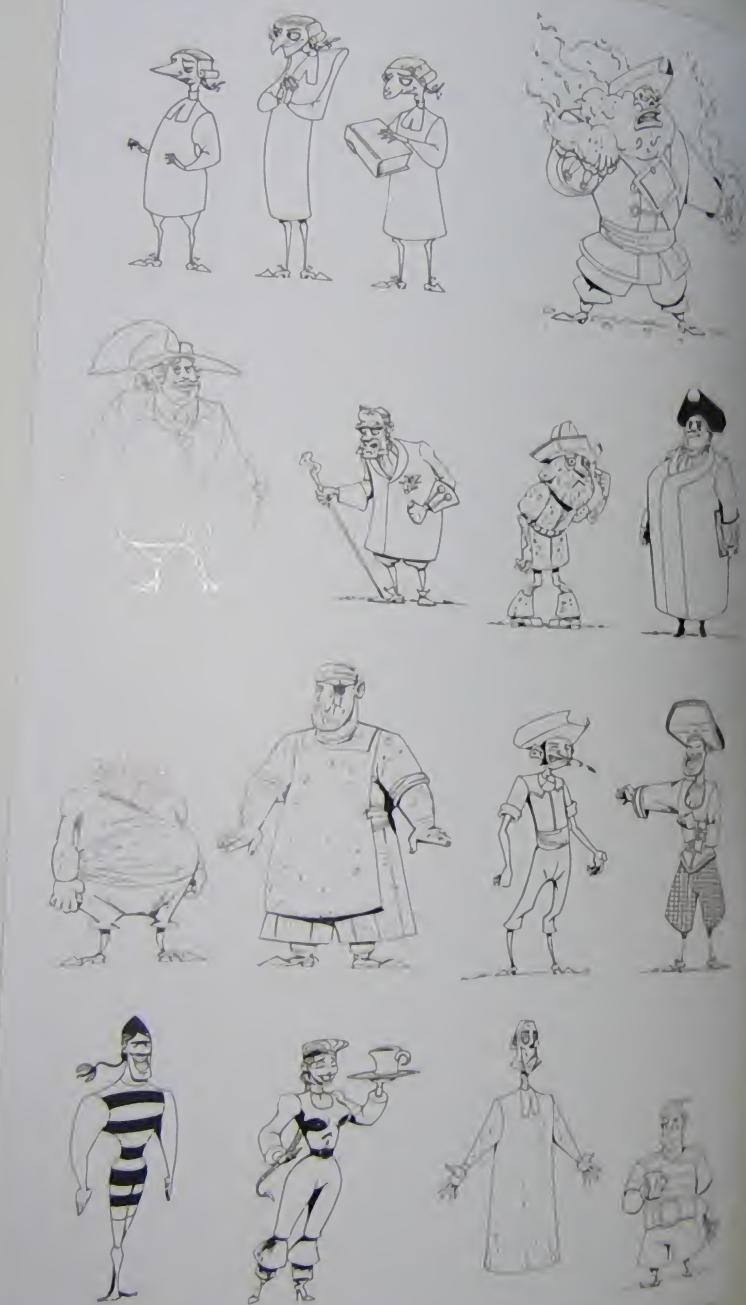
Star Wars: Episode I Jedi Power Battles



Based loosely on the Star Wars: Episode I The Phantom Menace plot, Star Wars: Episode I Jedi Power Battles (2000) enabled gamers to play as one of five Jedi Masters: Qui-Gon Jinn, Obi-Wan Kenobi, Mace Windu, Plo Koon, and Ahsoka Tano. The game had great potential, because its gameplay focused on two enticing Jedi abilities—light saber battles and Force powers—but because of mixed awareness from the film marketing, ultimately, control challenges led to a tepid reception by the gaming media.

Left: Concept art showing game art for San Warr, Episode I Jedi Power Battles, artist unknown.

Right: Various sketches of the crew members who would appear in LucasArts' *Escape from Monkey Island* (2000), clockwise from top left.



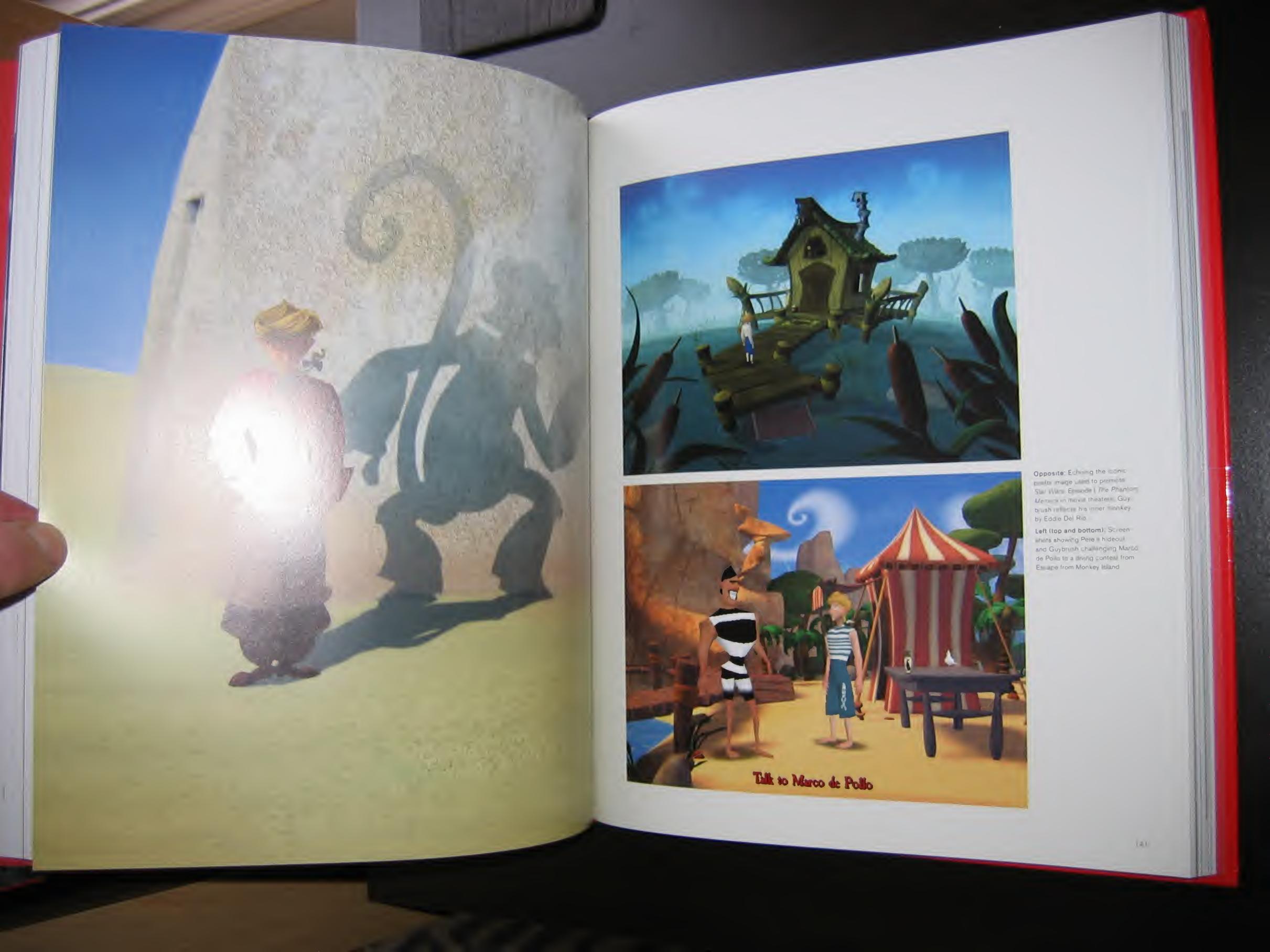
Monkey Island Adventures

In keeping with the enduring company philosophy of producing games across platforms and genres, another installment in the *Monkey Island* series was devised. *Escape from Monkey Island* (2000) was the fourth in what was originally conceived as a three-part story arc. "We knew we were taking a gamble when we put it out," recalls Mary Bhr. But with so many *Star Wars* games on the development schedule, it was important to remind the public that LucasArts was still capable of producing its own original titles.

For the return of such a beloved franchise, the statewide reception was disappointing, but retail response was buoyed by overseas interest and sales—particularly in Europe, where the demand for adventure games hadn't fallen as flat as it had in the United States.



Above: Box art for *Escape from Monkey Island* (2000).
Top: Guybrush Threepwood (left) and Elaine (right) as rendered by LucasArts.
Left: A romantic embrace in Erolia from *Monkey Island 2* is painted with concept (sketch) (bottom) (left).



Opposite: Echoing the iconic poster image used to promote *Star Wars: Episode I / The Phantom Menace* in movie theaters, Guybrush reflects his inner monkey by Eddie Del Rio.

Left (top and bottom): Screen-shots showing Guybrush's hideout and Guybrush challenging Marco de Pollo to a diving contest from *Escape from Monkey Island*.



Obi-Wan in Action

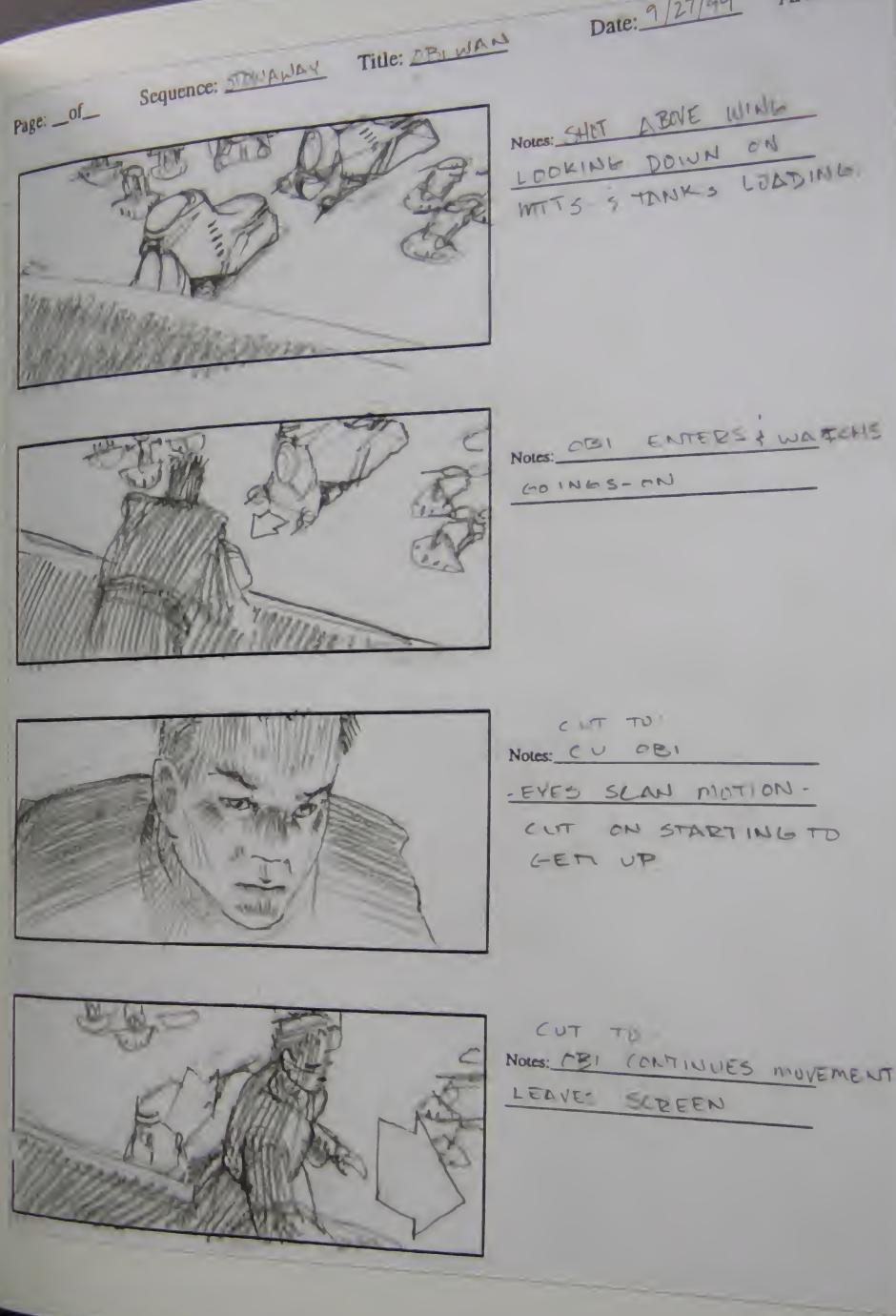


Star Wars: Obi-Wan (2002) was initially developed as a direct follow-up to Jedi Knight (1999), which it largely approached by force and combat, who had become the Dark Forces' newest and most vicious recruit. The game's story follows the invasion of the Alderaan I moon, where the Jedi are sent to destroy the Death Star's lightsaber port. Obi-Wan and Anakin are sent to the planet to the movie's homeworld with Anakin's Padawan learner off screen. They're given the mission of the building of a bracket-like X-34 engine to power lightsaber beams and weapons, bypassing the standard method of navigating the Alderaan system, rather than just flying across. Remaining high in its development cycle as it invaded the game's original market in the expansion of the Jedi Knight-loving PC game, Obi-Wan was cancelled for the PC, and it was released in 2003 only on the Xbox. But PC gamers would have been disappointed to not to get their Jedi Knight fix with Jedi Knight.

Alien Concept art for Star Wars: Episode I (1999) by Doug Chayka. Obi-Wan's lightsaber bracket and roadway, illustrated that Obi-Wan would travel through Alderaan's gravity field to meet Obi-Wan, Obi-Wan by Doug Chayka.

Page 144: Trident Studios' original sketch for Star Wars: Obi-Wan by Doug Chayka.

Page 145: Illustration of Darth Vader, 1999.





Right: Tusken Village panels for Star Wars: Obi-Wan, by Greg Knight, October 1999

Opposite: Character sketch of a droid scout, by Knight, July 1998





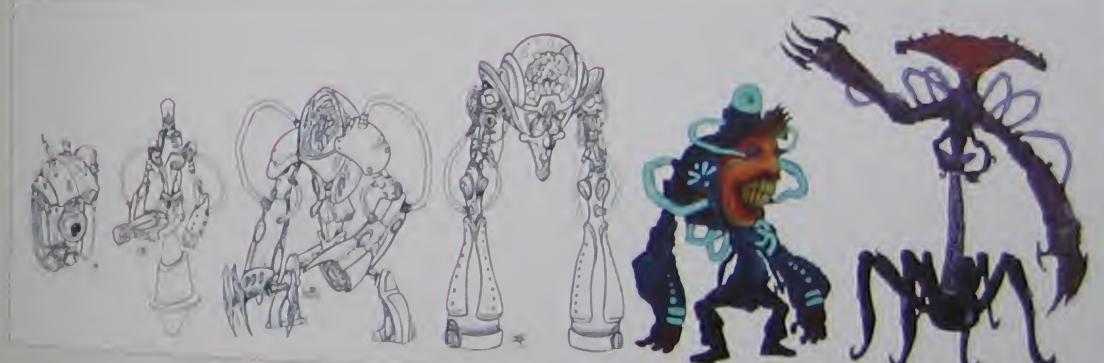
BRIGHT
MERRY FLING
(COLORS)
TAN GROW

Sawyer

Above and right, top: Character art for Sawyer, by Greg Knight, January 2000

Right, middle and bottom: Concept art for Sawyer, by Eddie Del Rio

Opposite: Character development and concept art, by Kathy Heim (top) and Eddie Del Rio (middle and bottom)



"Sawyer" changed direction many times," says artist Greg Knight. "We were trying for a retro sci-fi direction akin to Flash Gordon—so much so that we considered (radio-blitz) Queen for the soundtrack. I think in some influences from *The Rocketeer*, too."



A Galactic Strategy

Past *Star Wars* strategy games had struggled to deliver the gameplay expected by an enthusiastic fanbase. For *Galactic Battlegrounds*, however, LucasArts used a new tactic that would set a precedent for future hit-game development. Rather than create its own unique engine technology, LucasArts licensed the engine that powered real-time strategy smash *Age of Empires II*. Without the need to apportion resources to core technology creation, the team was able to produce a game design that used established (and top-selling) gameplay mechanics. The isometric perspective was familiar to gamers who had bought millions of games like those in the *Command & Conquer* series. Now that format was populated with AT-ATs, battle droids, Gungan sea units, and playable hero characters such as Luke Skywalker, Emperor Palpatine, Princess Leia, and Han Solo, it was therefore a much easier sell to fans of both the real-time strategy genre and *Star Wars* gaming.

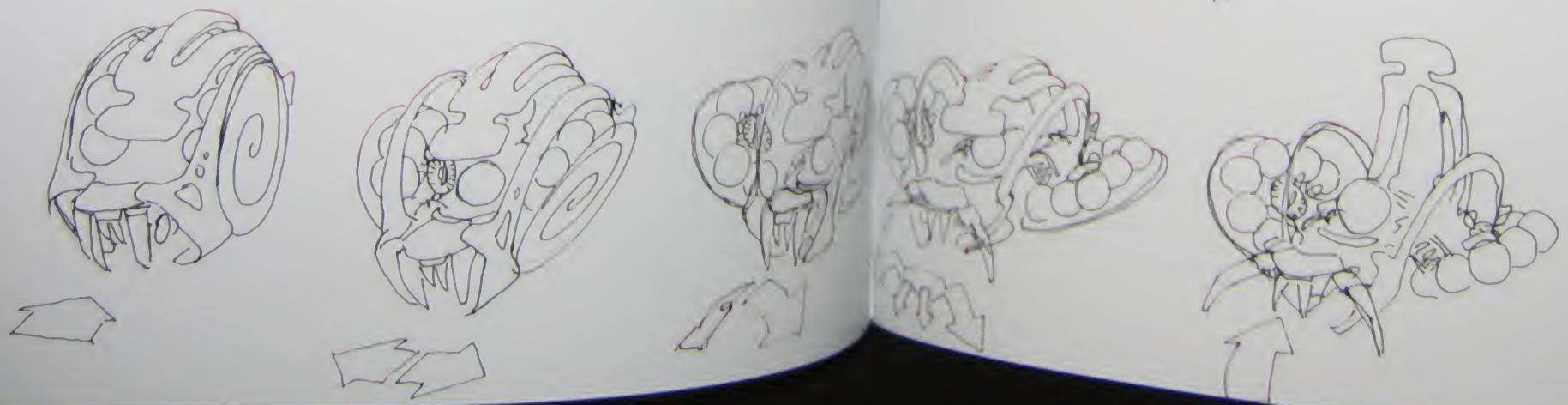




KNIGHT
BATTLEGROUNDS
GUNGAN
BLASTER CANNON
7-20-01

Left: Concept art by Greg Knight of the Gungan blaster cannon illustrating its moving parts and how it would fire in *Star Wars: Galactic Battlegrounds*, July 20, 2001.

"Accuracy within the *Star Wars* universe was a priority," says artist Greg Knight of the *Star Wars: Galactic Battlegrounds* concept art. "If a design didn't exist from the movies, we created something new, but anchored in something recognizable. Unlike any other project I worked on, the [success] of this project making deadlines fell completely on the art. The technology was mostly complete when we received it, but the art teams were daunting."





CHAPTER SEVEN

DEVELOPING WITHOUT WALLS

2001-2007

Change was brewing. Every single game LucasArts released in 2002 was set in the *Star Wars* galaxy. In the previous year, only a PlayStation 2 port of *Escape from Monkey Island* stood out from another *Star Wars*-focused release list; and of the seven games LucasArts published in 2000, the only non-*Star Wars* entries were the original PC version of *Escape from Monkey Island* and a Nintendo 64 port of the 1999 PC release *Indiana Jones and the Infernal Machine*.

Episode I *The Phantom Menace* had reinvigorated the *Star Wars* gaming brand, introducing its new story to a young, content-hungry audience. Its popularity seemed to imply that the expanded audience would eat up any interactive-entertainment products that were set in this new *Star Wars* timeline.

Indeed, the classic trilogy was temporarily tracked in favor of Prequel Trilogy games, rushed to market to capitalize on considerable demand for content. "When we had that period, it was not a good thing," says Mary Bihr. "We went from a period that were very high-quality to a period where we lost some of the vision, and we were in survival mode."

To effect change, LucasArts turned to external development talent to churn out these games, and the conscious decision to ally its remarkable top-quality, premium-level development with the publisher initiated a return-to-quality. The goal was not to be messaged to fans or critics, but was that if the company could do that, it was raising the quality bar for all in production.

LucasArts took several ideas for creating new *Star Wars* games to some of the leaders in the biggest genres.



board, that shift would be recognized and reflected in the feedback received from gameplayers and buyers.

The year 2001 was still commercially successful with the release of the chart-topping *Star Wars Starfighter* (2001) on the PlayStation 2. Lucas Licensing gave its blessing to include the new Jedi starfighter from Episode II in the game, even though it would hit shelves several months before the movie would showcase the craft's sleek design in theaters. However, with LucasArts' renewed commitment to quality, the publisher elected not to develop a game for *Attack of the Clones*, as time constraints would have made it extremely difficult to produce a high-quality product.

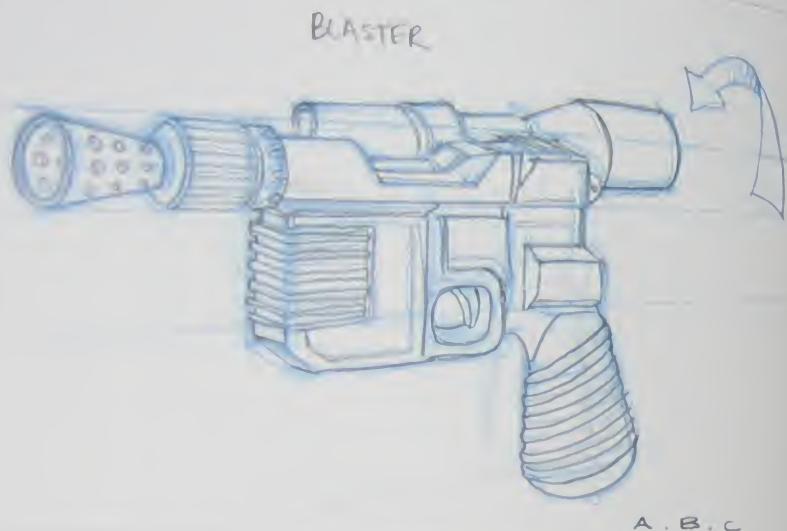
(continued on page 156)



Above: Box art for *Star Wars Starfighter* (2001) and *Star Wars Jedi Starfighter* (2002).

Left, top: Concept sketches, painting, and scale views of the Heavy Fighter for *Star Wars Jedi Starfighter*, by Amy Beth Christensen.

Left, bottom: Hangar concept painting from *Star Wars Jedi Starfighter*, by Christensen.



Top: Blaster sketch for *Star Wars: Jedi Starfighter* (2001), by Amy Beth Christenison, circa 2000

Above: Painted cutaway representing color palette for *Star Wars: Jedi Starfighter*, by Christenison, circa 2000



Top: Concept painting of an action scene for *Star Wars: Jedi Starfighter*, by Christenison, circa 2000

Above: Concept painting of a Jedi starfighter showcasing its power, by Christenison, circa 2000

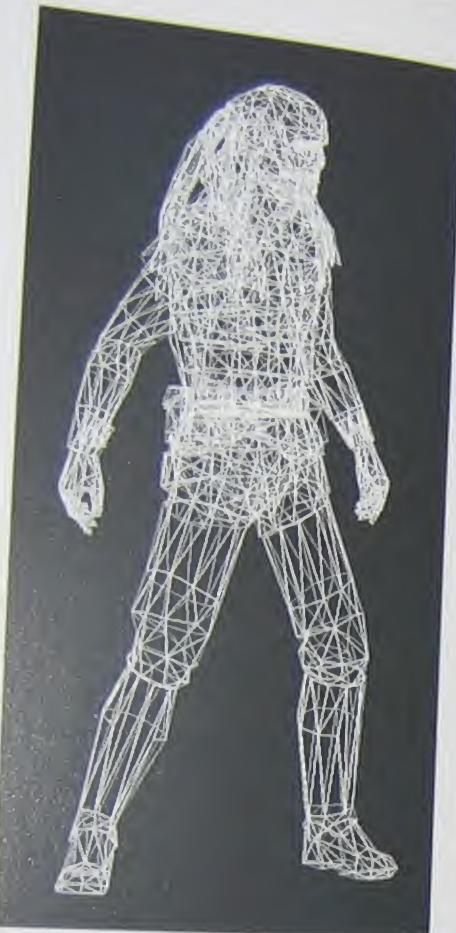


Opposite: Painting by James Star Wars artist John Alvin

Top, left: The wireframe image from the 3-D character models highlights how many polygons will go into creating a single character in *Star Wars: Jedi Outcast*, artist unknown.

Top, right: The final shaped and rendered creature that a player sees in *Star Wars: Jedi Outcast*. Right: X-wing drawing, artist unknown.

Opposite: Painting by James Star Wars artist John Alvin

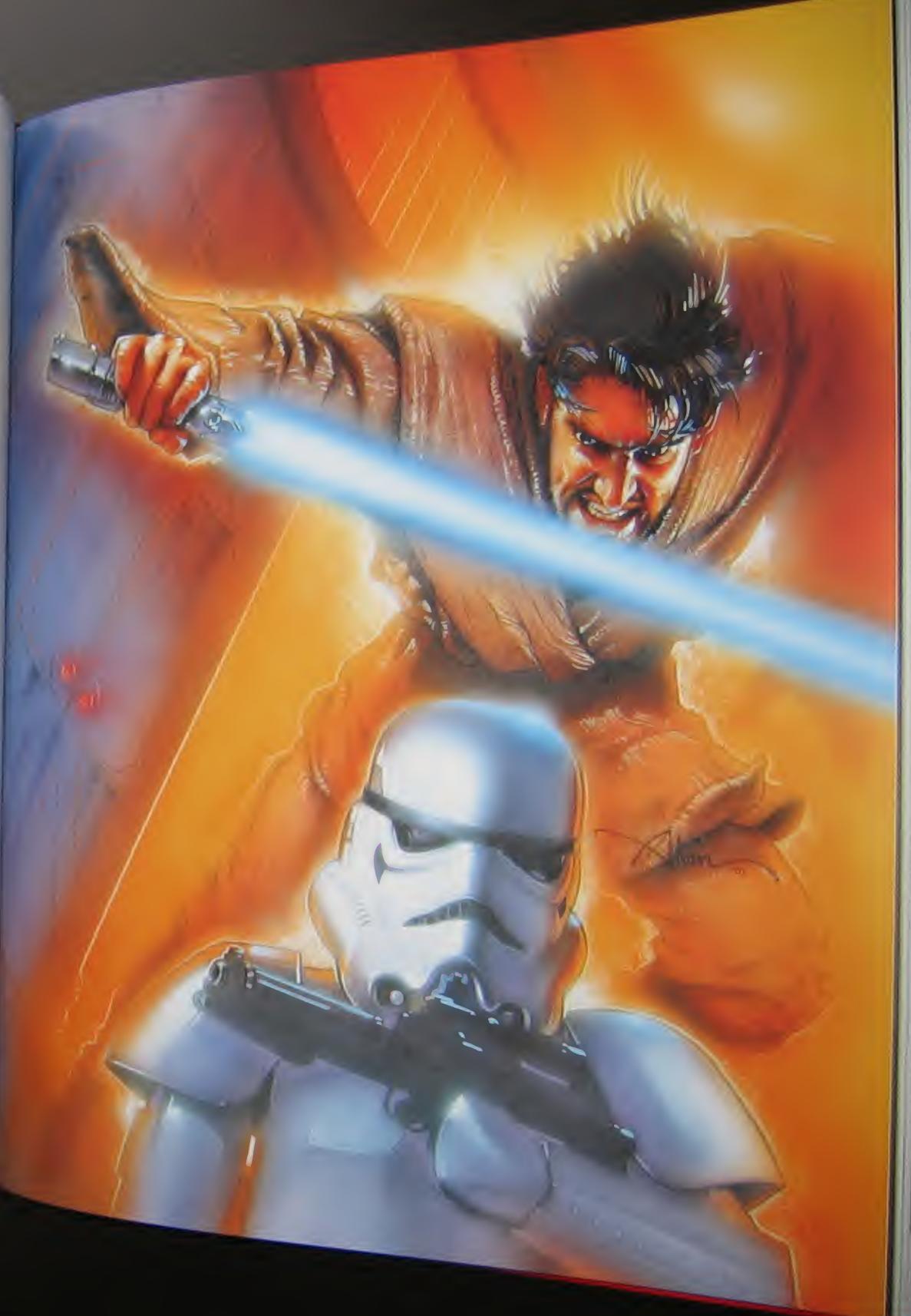


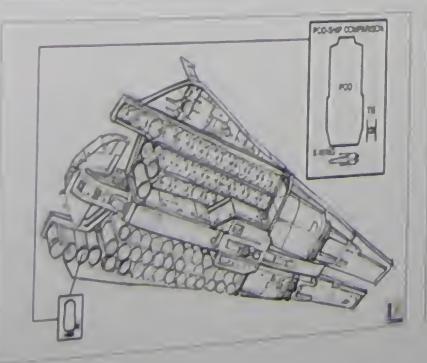
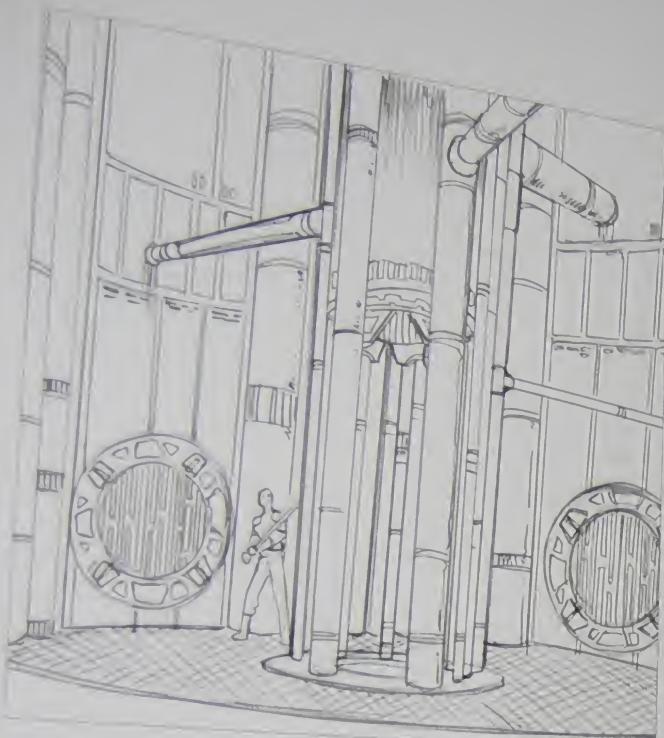
KEYS TO THE KINGDOM

LucasArts took several ideas for creating new *Star Wars* games to some of the leaders in the biggest genres. Raven Software had made a name for itself in the first-person-action market with *Hexen* (1995) and *Heretic* (1998), and, more recently, in offering a high-quality *Star Trek* action experience with *Elite Force* (2000). This team was chosen to continue the Jedi Knight franchise, and it delivered a superb shooter—*Jedi Knight II: Jedi Outcast* (2002)—which could stand beside the much-loved original *Jedi Knight*.

In 2002, LucasArts president Simon Jeffery approached BioWare—a studio known mainly for its tremendously deep, story-driven role-playing games—to produce a role-playing game (RPG) set in the *Star Wars* galaxy. After some mutual brainstorming, it was decided to set the game thousands of years before

any of the movies took place, in the era of the Old Republic. Up to this point, only the *Star Wars* comic-book series *Role of the Jedi* had explored this era. Using those stories for inspiration, BioWare crafted an outline that would become *Jedi Knight: Knights of the Old Republic* (2003).





This page: For *Star Wars: Jedi Outcast*, tech leadon had to be sketched out in detail before being built in the game engine, as seen in these pieces by Jeff Moy. Increased game-level complexity required more pre-production. Characters are drawn into the scenes, such as a power staff or hunger, to help convey the size and scale of each environment as reference for when it is built in the game engine. Some of the areas are vast, and even the ship design (bottom left), the visualization of TIE fighters and X-wings provides a sense of scale for the Pod Ship design.

"We got the chance to explore existing worlds and to add to the official *Star Wars* canon, including a brand-new race, the Selkath of the water world Manaan."

—Ray Muzyka, CEO of BioWare



During the design process, BioWare were able to explore existing worlds and to add to the official *Star Wars* canon, including a brand-new race, the Selkath of the water world Manaan," explains BioWare co-founder Ray Muzyka. With so many *Star Wars* fans on the team, it was easy to keep design ideas within the broad boundaries set by the Lucas Licensing department. "We worked hard to stay true to the original IP [so only a handful] of our concepts came back with suggestions for revision," adds Muzyka.

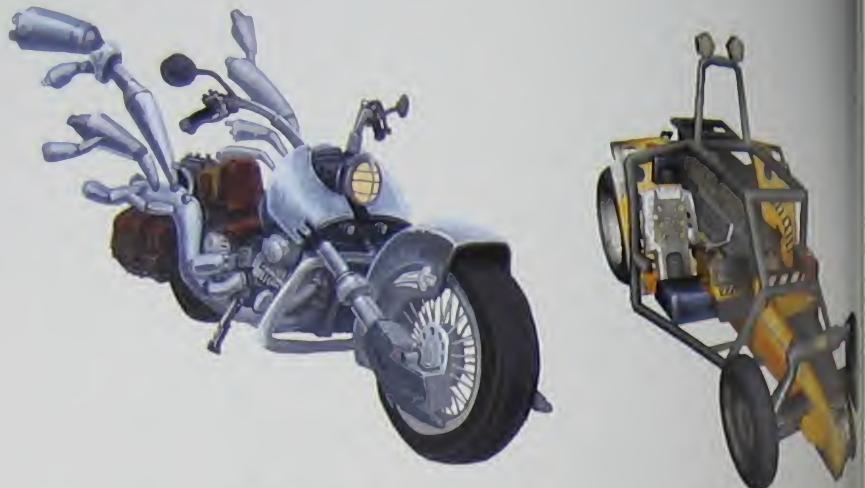
Out of this arrangement—expert RPG developers working within a vastly original setting—was born a massive critical and commercial success. *Knights of the Old Republic* went on to spawn a sequel, developed by Obsidian Entertainment, which lived up to the high standard of its predecessor.

(continued on page 164)

Top: Box art for the PC version of BioWare's *Star Wars: Knights of the Old Republic*.
Above: Box art for Obsidian Entertainment's *Star Wars: Knights of the Old Republic II: The Sith Lords* (2004).

Left: Screenshot of a battle with Tukken Raadiva from *Star Wars: Knights of the Old Republic* (2003).

Far left: Stormtrooper drawing from *Star Wars: Jedi Outcast*, artist unknown.



Full Throttle 2

Left: M/T: Final version of Ben's motorcycle by Eddie Del Rio, circa 2002.

Right: Dune Buggy concept art by Del Rio, circa 2002.

Top: Concept painting showing Ben's motorcycle pulling up to a gas station by Kathy Hsieh, circa 2002.

Bottom: Concept painting of Ben's motorcycle with a crowbar by Del Rio, circa 2002.

Twice, LucasArts put a sequel to Schafer's *Full Throttle* into production. The first, subtitled *Payback*, was cancelled relatively early in its development cycle. When this news leaked out to the fans, the passionate voice of the dwindling traditional-adventure-game player was heard, but it was clear around the PC-games industry that the demand for that style of game was waning. The invention that LucasArts always seemed to bring fresh to the table was also becoming more expensive. The man-hour resources required to design those games, create the art, and build new game engines didn't add up when projected sales were factored in.

Fast-forward to several years later, when the developers had moved on to a more action-oriented game, *Full Throttle: Hell on Wheels*. They gave an update in 2003, and a playable version was released to the press. However, concerns that the game would reject its more action-filled gameplay with the audience wouldn't consider the game's roots resulted in yet another cancellation. With release so near, and this cancellation mimicking *Sam & Max* sequel, many fans were left wondering if LucasArts would abandon its roots.





Above: Box art for *Star Wars Galaxies* (2003) and *Indiana Jones and the Emperor's Tomb* (2003).

Right, top: A collection of characters who could band together on millions in the massively multiplayer online role playing game *Star Wars: Galaxies*.

Right, bottom: Several months after the core game shipped to retail shelves, a spacebased expansion—*Jump to Lightspeed*—introduced space and space combat to the *Star Wars: Galaxies* gameplay.

THE ADVENT OF THE MMORPG

Alongside first-person action games and single-player role-playing games, one of the biggest emerging genres was the massively multiplayer online role-playing game (MMORPG). Sony Online Entertainment had helped revolutionize this community-driven role-playing experience when it launched EverQuest in 1999, and former head of LucasArts game development Kelly Flock was now employed at Sony Online. Through Flock's connections with LucasArts then-president Jack Sorenson, the parties began to investigate the feasibility of a massively multiplayer *Star Wars* game. The "million-player *Star Wars* game" notion that had been pitched to LucasArts back in 1998 finally looked like a technical and game-design possibility. Simon Jeffrey completed the deal for LucasArts as he took over as president, and within just two months of the first discussions, a development plan was in place for *Star Wars: Galaxies: An Empire Divided* (2003).

Initially, the pitch was simple: Make something like EverQuest but in space. With Sony Online's MMORPG hit boasting some 300,000-plus subscribers—each paying a monthly subscription fee to give them access to the game world—it was clear that the design was speaking a language that an enormous number of gamers understood and embraced. Applying that gameplay mechanic to the massive reach of the *Star Wars* brand had the potential for a huge hit. But enabling fans to interact within the *Star Wars* galaxy presented conceptual challenges.

LucasArts wanted to investigate a different kind of persistent online gameplay, and during the rethink, Sony Online shifted its development operation from San Diego to a new studio in Austin, Texas. According



to Sony Online producer John Snoddy, it took some time to answer the question: "What is a game of this magnitude?"

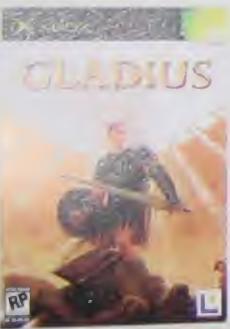
"The stumbling blocks were how to relate to the Force," he recalls. "We had to somehow make it feel like you would want to be a Jedi—without going over the top. In the end, it was a very simple case—but if it didn't make sense, it would have been a disaster."

The original movie trilogy was



Above: June 2002 issue 8 cover story for Computer Gaming World featuring *Star Wars: Galaxies* (2003).

Left: Painting of Darth Vader used as part of the promotional materials for *Star Wars: Galaxies*, © 2003 unknown.



Above: Box art for Gladius (2003)

Top: Character sketches from Gladius, by James Zhang, circa 2001

Bottom: Sketches of the Dark Legion and Greater Cyclops, by Zhang, circa 2001

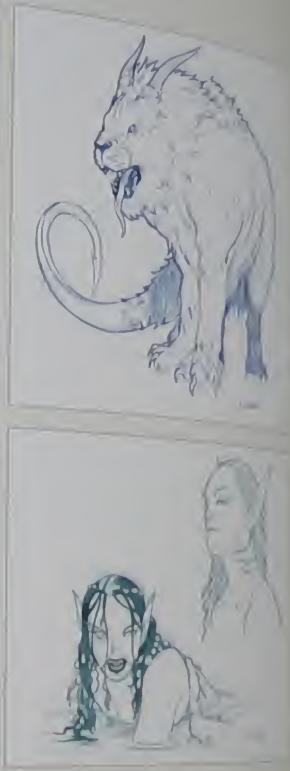
Opposite: Concept sketch for Nephili, by Zhang, circa 2001



Gladius

Gladiatorial combat was the focus of the RPG strategy game Gladius, as you molded a team of warriors to fight in the ancient arenas. Inventive character and creature design (as evidenced in the concept art by James Zhang) and an entertaining gameplay mechanic made the game a hit with the relatively small audience that bought it.





Pangaea

This page: Character concepts for Pangaea (clockwise from top left): Medusa, Chimera, Kelpie, and "Elemental," all by Cory Allemeier, circa 2003

Opposite: Concept sketches for Greek and Roman mythology-inspired creatures like a basilisk and minotaur, by Allemeier, circa 2003

Over time the Pangaea concept went through several iterations and directions, but was always intended to be a massively multiplayer game for the next-generation consoles (Xbox 360 and PlayStation 3). According to LucasArts lead designer John Stafford, the game was "a Greco-Roman fantasy MMO based on concepts from *Gladius*.

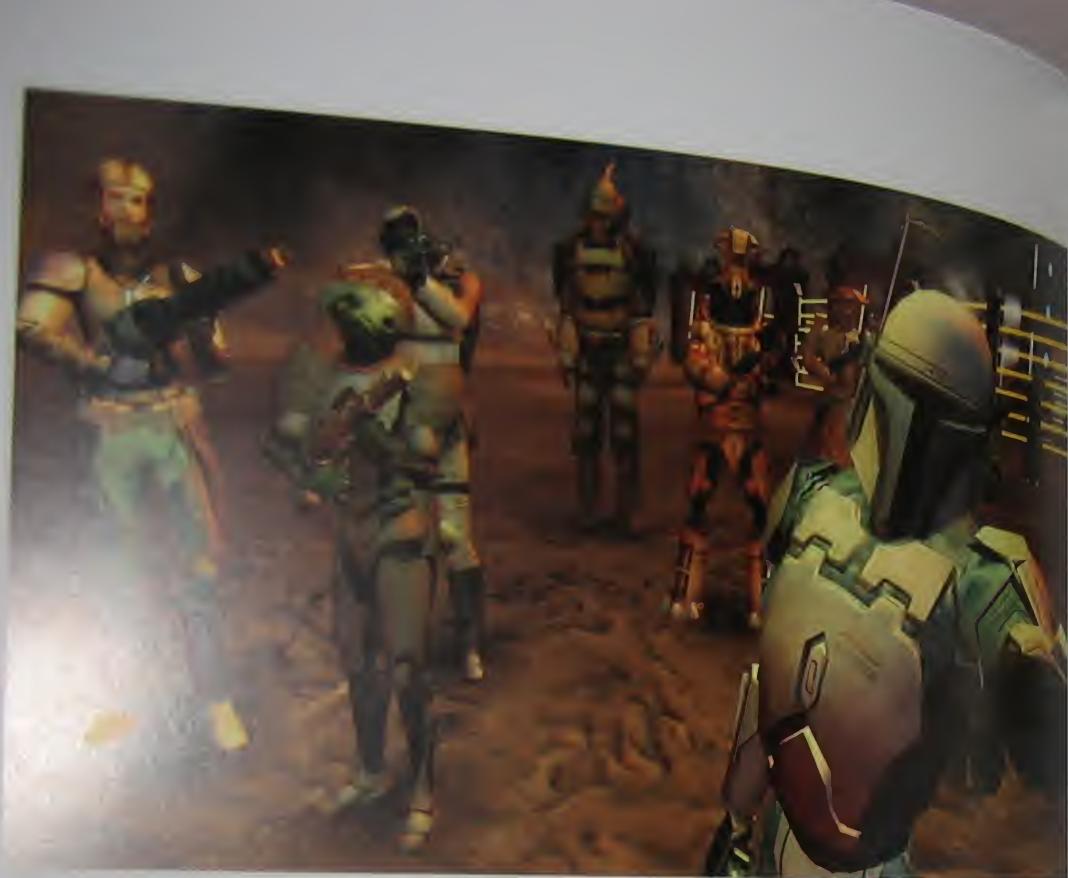
"We designed classes, dungeons, economics, a religion and magic system, and all kinds of weapons," recalls Stafford of the work that was completed. "We were dealing with lots of tricky problems, such as how to create a robust communication system without keyboards, and what kind of revenue model we wanted to pursue." These challenges contributed to the project being cancelled in 2003.



Proteus

The original Pangaea team was transitioned to a new project that was dubbed Proteus, which was to be a *Star Wars* massively multiplayer online game for the console systems (essentially an in-house-developed sibling to the PC only, Sony Online Entertainment-developed MMO, *Star Wars: Galaxies*). According to John Stafford, the team spent between four and six months in 2003 working on game design documents, ideas, and systems before it was cancelled like its Pangaea forefather because of interface challenges and difficulties that created an unattractive revenue model.

This page (clockwise from top left):
Human female by Allemeier; city on planet Bespin by Molly Denmark; Sulust by Hui and unknown; city by Allemeier, all circa 2003



The Best of LucasArts Original Soundtracks

LucasArts has a long history of remastering original soundtracks for its games. With talented musicians and composers such as Michael Land (who has created the MUSE multi-format system), LucasArts has a rich portfolio that provided enough great compositions to warrant a *Best of LucasArts Original Soundtracks* CD. For many fans, the scores from games like *Star Wars: Knights of the Old Republic* and *Episode I: The Phantom Menace* were as much a part of the company's musical legacy as John Williams' *Star Wars* theme from the original *Star Wars* film.

Top: *Star Wars: Knights of the Old Republic II* (2004). Bottom: The Best of LucasArts Original Soundtracks CD cover.

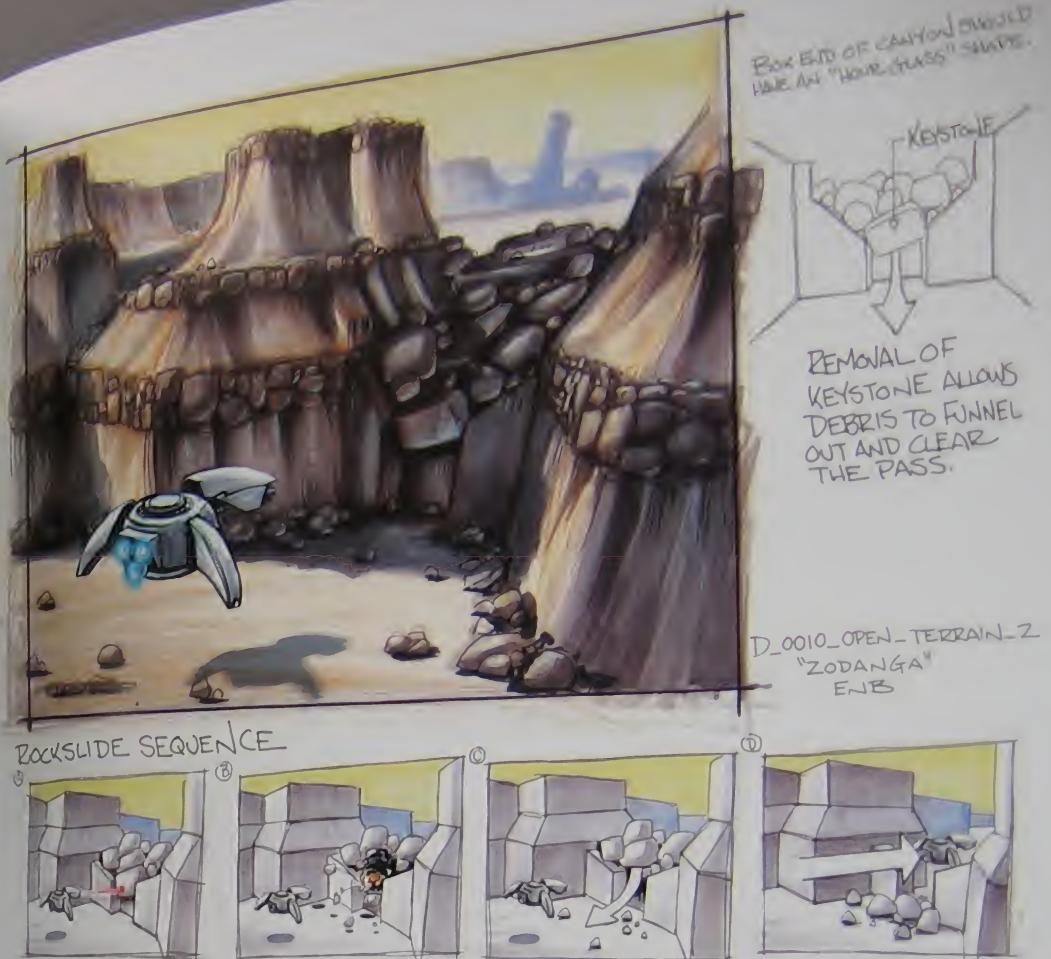
DEVELOPING WITHOUT WALLS 2001-2007

plain for anyone to follow, spoiler-strewn websites would reveal the exact path in a heartbeat. Switching between all these ideas landed the final game in the middle of several competing design philosophies; it also produced the need for significant play-balancing later on to afford all the players clamoring to play as Jedi characters the opportunity to do so.

Balancing combat between ranged- and melee-attack options required its own unique fixes, as extensive feedback was delivered loud and clear, both on message boards and within the gameworld. Not surprisingly, the original design document was between two and three feet thick, packed with ideas on how to treat every eventuality the team could imagine. The decision to omit a space-based component from the game upon its initial launch proved controversial (though the ability to fly and fight in space was always planned).

Fortunately, the persistent nature of MMORPGs allows them to be constantly updated and upgraded,

so developers can tweak or reverse initial design decisions. "You should focus on gameplay design," offers John Smedley, referring to player reaction. An expansion pack, *Jump to LightSpeed*, eventually did take the adventure into space, fixes to combat, the Jedi progression, and player skill progression have made *Galaxies* a different—and significantly better—entity than when it was first launched. In addition to formal expansion packs, LucasArts released new content for free, helping the gameworld to continue to evolve. The support contributed to a steadily growing player base for *Galaxies*. Whereas MMORPGs often hit a peak user level and then gradually decline, the next big game comes along, the absence of any more *Star Wars* movies has led the audience to turn to the persistent-world game as a replacement.



RTX RED ROCK

New game ideas continued to be tested during this place of the company's history, and original properties were always vital to rounding out the portfolio. Hal Barwood was project leader on *RTX Red Rock* (2003) and was aware through his extensive contacts in the games industry—“at prominent development houses like Naughty Dog (*Crash Bandicoot*, *Jak and Daxter*) and Insomniac Games (*Spyro the Dragon*)—that studios would be buried if they didn't produce top-notch original franchises. “I don't think we as a studio were so aware [of this], though,” Barwood recalls. “Because we could always fall back on the *Star Wars* things weren't analyzed as closely as they tended to be. Plus, the production process wasn't so robust—it was a strain to build each game engine

“It's a game I love...”

—Hal Barwood, designer

Barwood considers *RTX Red Rock* a painful subject. It's “a game I love,” he says of the action story about aliens capturing a human colony on Mars, “but it was not reviewed well, and [it] was a dismal flop.” Out of the disappointment of producing a game that performed poorly at retail and among the games press arose the realization that LucasArts needed to make fundamental changes to its business to thrive. *RTX Red Rock* was part of the catalyst for new president Jim Ward's 2004 company reboot.

(continued on page 176)



Above: Box art for *RTX Red Rock* (2003). Top: Concept sketches for locations and scripted events of Hal Barwood's *RTX Red Rock*, by Ian Barry.



Sam & Max Freelance Police

The project in *Sam & Max Hit the Road* (1993) was officially canceled, and a few details and screenshots were released to the mainstream press. The game would be a comic-style point-and-click adventure, but with 3-D characters. Steve Purcell, the original comic book creator, created art for the project, and posted online that development was progressing well. It was then abruptly cancelled, with LucasArts releasing a statement outlining that the company believed the market for adventure games was too small to justify pursuing development.

Mike Sternicle, who was the game's lead designer and the on-leash designer on *Sam & Max Hit the Road*, suggested prior to its cancellation that the game would offer downloadable content that built on the shipping game. This concept was ultimately realized as *Sam & Max Season One* by Telltale Games, released in 2006. This *Sam & Max* game was built around a new story, but used an episodic content model to deliver chunks of the story.

Above: Concept sketches for *Sam & Max Freelance Police*, by Kathy Hsieh, circa 2003
Left: Character models for *Sam & Max Freelance Police*

Opposite: Concept sketches and paintings for *Sam & Max Freelance Police*, by Hsieh, April 4, 2003





Above: Box art for Star Wars: Battlefront (2004)

Top: Concept art illustrating the five character classes available to players in Pandemic's *Star Wars* Battlefront, by Cory Allemeier

REBOOT: LUCASARTS 2.0

Early 2004 was a key moment in LucasArts' history. Jim Ward had segued over from his position as VP of marketing, online, and global distribution at Lucasfilm to become president of the videogames branch of the company. As such he'd performed a review of the entire infrastructure—top to bottom, game development to marketing, production to distribution. "I was asked to do a recon mission of the situation, and what I walked into was quite a mess," Ward recalls. Ward's audit identified such problems as misjudging the transition from a PC-driven market to a console-driven market, and he presented three questions to George Lucas and the company's board of directors:

1. Do you want to be in the videogame?

business? The answer was yes: the release of *Star Wars: Episode III Revenge of the Sith* in 2005 would be the last of the movies, and an internal audit suggested that in the following years, the major growth area for the entire company could be games.

Do you want to be in the game?

business? It was obvious that LucasArts could take



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FIELD COMMANDER

its powerful journalistic properties, and videogame publisher and game developer to produce the videogame. "We make it a business doing that," Wood says. "Because I had a passion for games, and the desire was to, through them."

3. Do you have the investment committee dig out of this hole? *Ward* was elected by the board with a five-year term, and he did "I told *Grever*, 'Here's the problem: it wasn't something a public company could pursue. But he said, 'Go for it.'"

At the time, *Star Wars: Knights of the Old Republic* (2003) was in development with Pandemic Studios and LucasArts. Republic Commando (2005) was a spin-off, initially, with Star Wars Episode III (2005) and jointly with a development studio, The Asylum. These games survived on their own financial projects and led to a reduction of the studio's staff size from about 100 employees in 2003 to 20 in 2005. The studio's goal was to "return to excellence" that had put the star franchise in the hands of *Star Wars* and needed to make the internal dynamics of game development work effectively. A complete reorganization of LucasArts was necessary. The games indicate continued evolution of the franchise, especially its marketing.

Jim Ward's assessment of just what front should after coming of age in a defining moment. According to Ward, Peter Hirschman, S.

Development Paper 11



Some 10 percent had been threatening spired flags and 10 percent were progressing, giving it intermediate status of 10 to 60 percent - well short of 100 percent. What component that is simply waiting to be completed is being a truly great realization of the potential.

months of working seven days a week, "with not a day off for good behavior," notes Hirschmann.

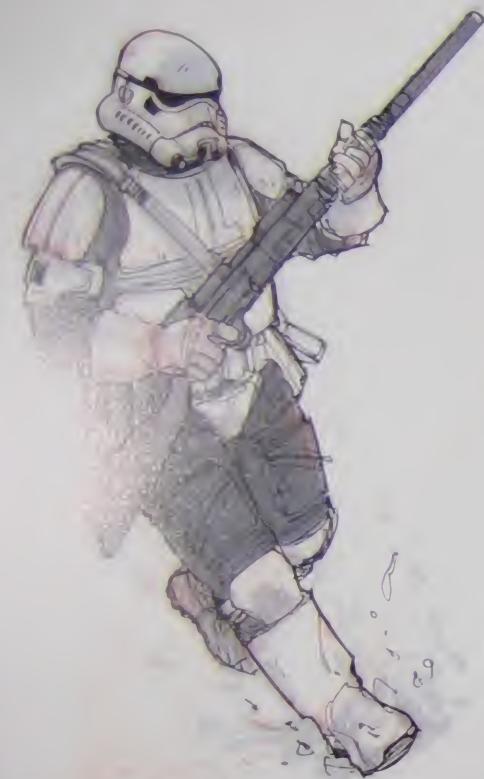
The rebirth wasn't limited to how LucasArts operated on its own; it also impacted the way the publisher worked with its development partners. Pandemic president Josh Ratliff (whose team was developing *Star Wars: Battlefront*) recalls Ward walking them through the internal changes, and his soliciting feedback about how the relationship with external developers should work. Though a huge challenge, *Battlefront* went on to become a huge success for the company, aided by its marketing tie-in with the



Above: Box art for Star Wars: Republic Commando (2005)

Left: Screenshot showing Hoth battle from *Star Wars: Battlefront* (2004).

"We took film elements and tried to reimagine them from the perspective of a stormtrooper," says artist Greg Knight about the approach to *Star Wars: Republic Commando*. "Their reality is dirty and scary. We made Geonosians vicious and deadly, and we made Wookiees 10 feet tall."



IMPERIAL SCOUTS

Above: Concept sketch of Imperial Scout in *Star Wars: Battlefront* (2004), by Guy Alvernaz

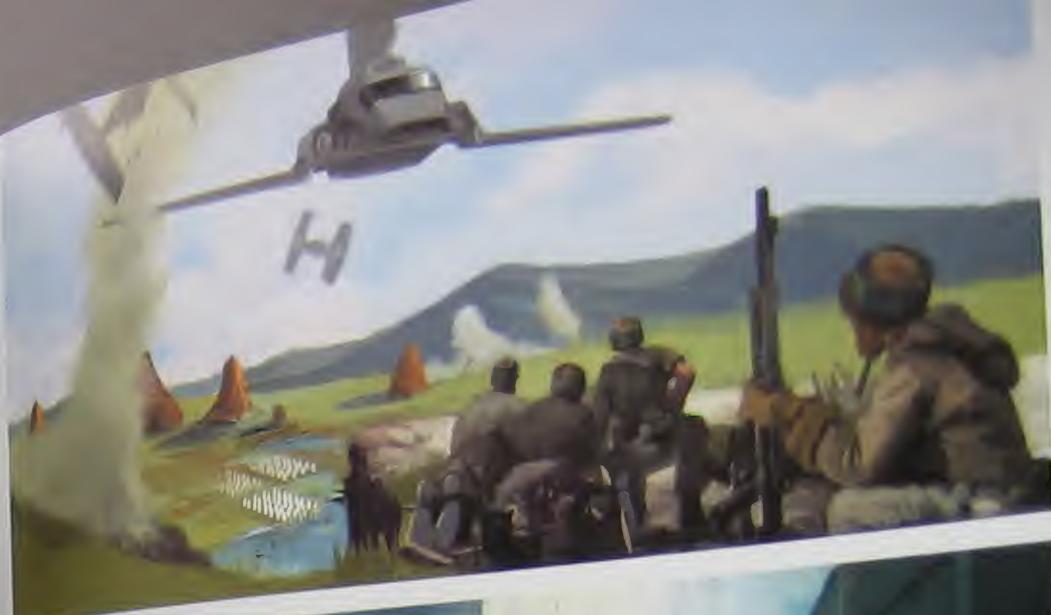
Opposite: Colored paintings of battle scenes and locations in *Star Wars: Battlefront*, by Molly Denmark

original-trilogy DVD release), selling as many units in its first year of release as almost the entire LucasArts catalog from the previous three years, and becoming the biggest-selling *Star Wars* game of all time. "We definitely felt that with *Battlefront* we were building a franchise," says Resnick.¹³ But we couldn't anticipate how wildly successful it would become.¹⁴

For the development team on *Star Wars: Republic Commando*, the reboot news didn't paint a beautiful picture of the future. In a company meeting, it became clear that as many as two-thirds of the group would lose their jobs after the game shipped.

A great incentive package was prepared for staff members who stayed and completed the game. In the reality of the situation was had and what each employee could make his or her own decision. The vast majority elected to stay and finish, and *Republic Commando* wasn't a stellar performance.

Hirschmann was pleased that it "did its job."





PlayStation.2

The image shows the front cover of the book 'Wrath Unleashed' by J.R. Ward. The cover features a dramatic, colorful illustration of a woman with long, flowing hair in a dynamic, possibly dancing or falling pose. The background is a mix of warm and cool colors, with hints of red, yellow, and blue. The title 'WRATH UNLEASHED' is prominently displayed at the top in a large, serif font.

Right as development was concluding for the first *Call of Duty: Bad Company* game, Ward asked if round two could be started within a year—a schedule that would make the game a sequel to share marketing tie-ins with DVD and movie releases. After a quick and amicable negotiation with Pandemic Studios—given that the technology was mature and most of the team had already moved on from the original game to its follow-up, *Call of Duty: Bad Company 2* (2005)—Ward seized the opportunity to introduce the new units.

and locations that would debut in *Revenge of the Sith* proved to be both a blessing and a curse. These new aspects would attract gamers to the franchise, but trying to acquire the assets from a movie still in production that would allow the developers to build the in-game units is "never a fun or easy process with anyone," explains Pandemic's Resnick.

In addition, cramming the giant amount of content from the different gameworlds, play modes, and characters onto the Sony PlayStation Portable platform proved to be a major undertaking. Engineers from LucasArts' internal *Indiana Jones* and *Star Wars* development teams were brought in to optimize the code, working line by line to find where they could get an extra half- or quarter-frame a second. "It was a huge 'pop the champagne' day if you got back one whole frame a second," recalls Hirschmann. But over the course of eight weeks, Battlefront II's PSP version evolved from an utterly unplayable four- or five-frames-a-second performance to a smooth experience that has sold well over 500,000 copies worldwide.

(continued on page 192)



The cover art for Star Wars: Battlefront II features a central clone trooper in the foreground, holding a blaster and looking towards the right. Behind him, a TIE fighter is shown in flight. The background is a dark, star-filled space with a large, bright light source. The title 'Star Wars: Battlefront II' is prominently displayed at the top in a stylized font.

Top: Box art for *Star Wars: Episode III Revenge of the Sith* (2005)
Above: Box art for *Star Wars*

Right: In-game images of Boba Fett (top) and Darth Vader (bottom) from Star Wars Battlefront II. The game may be the most successful of the many spin-offs of the original movies.



Imperial Commando

Many game concepts emerged out of the military command modules and naming conventions that had the potential to inspire specific gameplay ideas. While *Star Wars: Republic Commando* was released in 2005, a sequel already planned based on the Imperial commando units—the Empire's elite ground combat troops—got no further than concept sketches, and was cancelled in 2004.

This page: Concept sketches and paintings from *Imperial Commando*, by Greg Knight (circa 2003–2004)



Opposite and this page Concept art for *Star Wars: The Clone Wars* (2004-2005). Art was very powerful during the "Star Wars" and *Star Wars: The Clone Wars* pitch. "In most cases it was the best way to quickly convey an idea and very important for that idea. Artwork depicting gameplay and story moments became more important than the writing itself for many of us. That is outside of what a compliment art is usually asked to do but it will be better if you at least mention it and think of it."



Smuggler

Emerging in 2004 with a remit from company president Jim Ward to find new *Star Wars* stories to develop into games, the team spent some time working on the concept of being a smuggler in an imperial-dominated galaxy. While the rewards for buying low and selling high would be enormous, the danger of running afoul of the imperial authorities would

give every decision an extra keen edge. According to Stafford, this concept (though canceled with Jim Ward to form a project known as *Scum and Villainy*, and later turned into a project known as *Star Wars: The Force Unleashed* (see page 214))



Top: Box cover for Armed and Dangerous.

Above: Box art for Secret Weapons Over Normandy (2003) by Matt Hall.

Right, top: Powerful aerial imagery sets the scene for epic dogfights, such as with this RAF Spitfire setting a Messerschmitt Bf 109 ablaze, by Paul Pierce.

Opposite: Bold, colorful imagery showcases the aerial action in Larry Holland's reprise of his flight simulation roots with Secret Weapons Over Normandy, by Pierce. This painting depicts a P-38 Lightning knocking out a Messerschmitt Bf 109.

Capturing Creativity: Secret Weapons Over Normandy and Armed and Dangerous

If LucasArts' early golden age occurred in the late 1980s and early 1990s—on the back of *Secret Weapons of the Luftwaffe*, *Monkey Island*, *X Wing*, and then *Dark Forces* (all candidates for a great gaming hall of fame)—then 2003 showed an attempt to recapture that magic. A relationship between Larry Holland, the independent contractor whose *Totally Games* studio had produced the award-winning *X-Wing* series, and Randy Bresn, who had been an associate producer at Electronic Arts on Holland's *Strike Fleet*, encouraged them to produce a World War II game together, and the result was *Secret Weapons Over Normandy* (2003). This new game merged vintage *Secret Weapons* gameplay with a *TIE Fighter*-style story-driven experience. In a nod to Holland's 1988 epic, the game's elite squadron was called The Battlin' Hawks. *Secret Weapons Over Normandy* was built as a console game, launching on Xbox and PS2, meaning that its gameplay was focused less on simulation and more on the action-filled flight combat favored by console players.

When the game appeared on the PC—where Holland's name and reputation were ingrained with a hardcore fanbase—the reaction was less positive. "I was thrilled at how the game turned out on Xbox and PS2," recalls Holland, "but the one mistake we made was to think it would be appealing on the PC." The computer-gaming audience expected deep simulation from the designer of so many classic games, and Holland concedes that the negativity toward the PC version hurt *Secret Weapons*' overall success.

Peter Hirschmann, the LucasArts producer for the project, was proud of the "historical document" that was created by

"I was thrilled at how the game turned out on Xbox and PS2."

—Larry Holland, *Secret Weapons Over Normandy*

the game's turned and won, having "fortunate or lucky" performance after a "horrible" monsoon in the country—about 10 days in California. They assume it is just fine, assuming (without a doubt, I suspect) that the *Secret Weapons* team has been trained in full-sims, plus of course using the *Secret Weapons* Take 2 and *X-Wing* 2.0 and *Star Wars* 3D's presented similarly to *Secret*.

For inclusion in the game (as its developer) that follows the 1944 assault of Normandy, Holland and Wynn issue the *Secret* crew credit in his game's 10+ hours of game time. Who else? *Secret* is mentioned in the war plane in *Secret* as an armament of the Luftwaffe, a part which, to me, is a nice inclusion (though, for personal reasons, I'd like to see it removed). The game is a highlight of the war plane. To me, it is a good book or not much else, as war games are visual. *Secret* is good for its historical value, as well. It should be considered a historical game.

Secret Weapons Over Normandy was created from LucasArts' original art, sound effects, and music composed by Michael Sinterniklaas. The original art, *Heinrichmann and Company* (including the original art, *Secret Weapons Over Normandy*), and *Secret* were created by the *Secret* team in order to create the original art, *Secret*, and the original art, *Secret*.





Above: LucasArts and developer Totally Games staff based their designs on real WWII planes.

craft, as well as footage of the Northwest Sinfonia orchestra performing the score. Giacchino would go on to write music for 2005's *Mercenaries: Playground of Destruction* and 2008's *Fracture*.

What Lucasfilm Games pioneered in the 1980s is now commonly known as "value-added content"—but back then it was a unique selling point. For Hirschmann, the *Secret Weapons* bonus material was a labor of love, and an attempt to recapture a little of what made Lucas products truly stand out in earlier years. "As a fan, I always appreciated the effort that went into material beyond the software itself. For goodness' sake, the manual for the original *Secret Weapons* of the Luftwaffe still has a place on my bookshelf as a reference guide. With SWON, it was an attempt to get back to those glory days, albeit approaching it from a digital standpoint."

Also released the same year was a quirky, cartoony action-adventure that demonstrated much of the verve, style, and comedic attitude that lay at the heart of those legendary adventure games. *Armed and Dangerous* (2003) was initially pitched to LucasArts as an opportunity to resurrect some of

the spirit and hilarity of its groundbreaking game this time in an all-action wrapper.

Rather than target the more obscure *Armed and Dangerous* in-jokes, the *Armed and Dangerous* design team at developer Planet Moon Studios took aim at the well-known *Star Wars* canon. Ascent Lead Planet Moon creative director, recalls the game's then-director, Sean O'Farrell, introducing it to LucasArts at a company meeting with a cutscene that depicted the moment of *The Empire Strikes Back* when the tauntaun's stomach is cut open. In the cutscene, a tauntaun chews a sheet where the sun don't shine, and O'Farrell turned to the audience, waiting for the reaction. "It was pure off-pandemonium! They loved it," says Lind.

With the style and comedy bar set, *Armed and Dangerous* went on to deliver a slew of mind-boggling bonuses for many gaming conventions. Despite its cinematic appeal, however, its action gameplay pitch didn't seem to stick, and that the developer and the publisher had anticipated the golden age was proving to be a hard lesson to swallow.



This page: The production of *Secret Weapons Over Normandy* involved flying in some of the historical aircraft, a soundtrack composed by award-winning composer Michael Giacchino, and gathering detailed information on flight mechanics and dogfighting from Air Force veterans.



Above: The comical cast of characters in *Planet Moon's Armed and Dangerous* (2003) includes, from left, a member of the Shrub Patrol, Lily Jolley, Rexx Q. Roman, Harry, another member of the Shrub Patrol, and the Lady of the Lake.



Above: LEGO Star Wars became a bona fide game phenomenon, ultimately spawning sequels that covered the classic Trilogy in LEGO Star Wars II and the whole Star Wars saga in LEGO Star Wars: The Complete Saga.

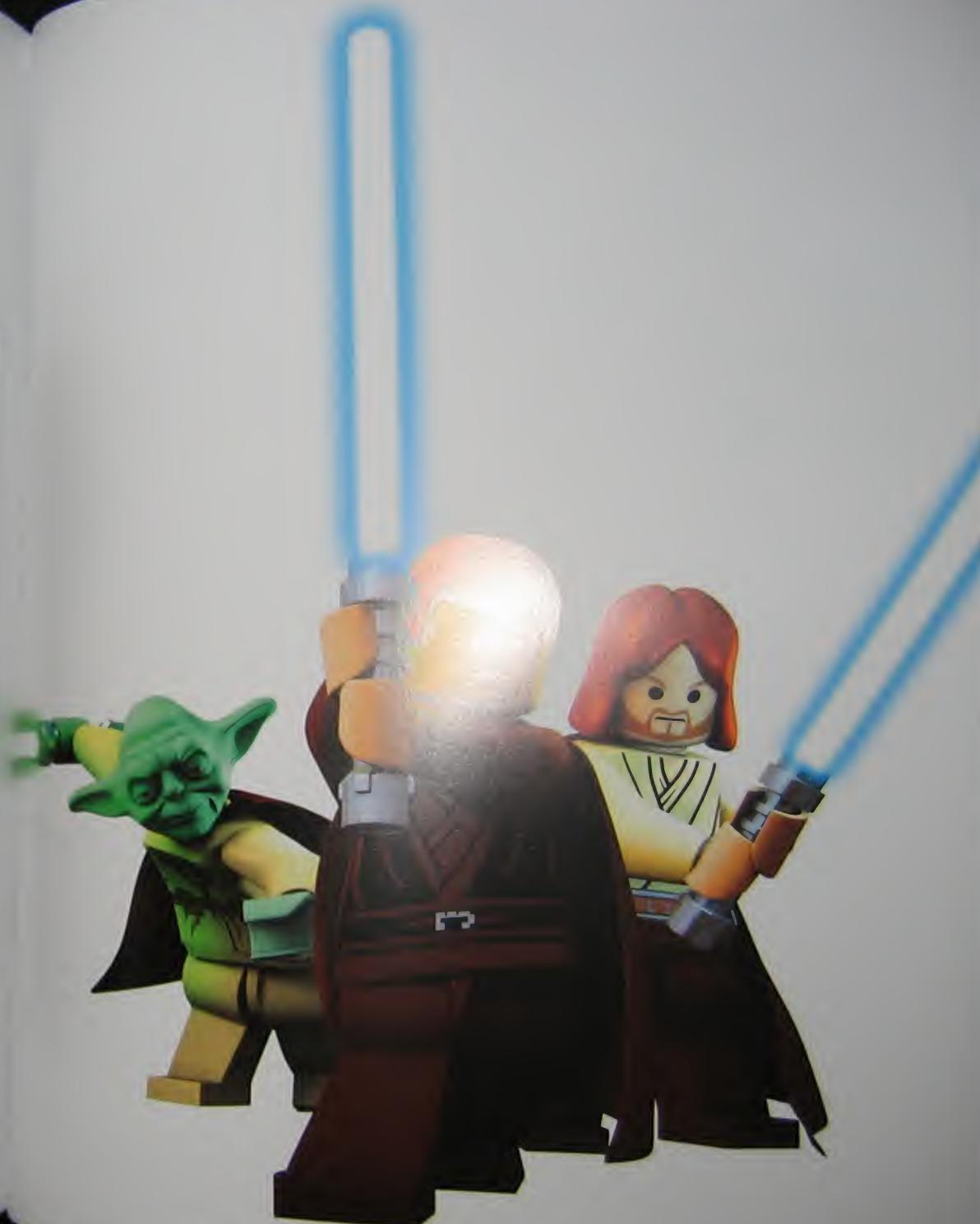
Right: The iconic Star Wars movie poster with its LEGO counterparts and a screenshot depicting Luke's battle from *Return of the Jedi*.

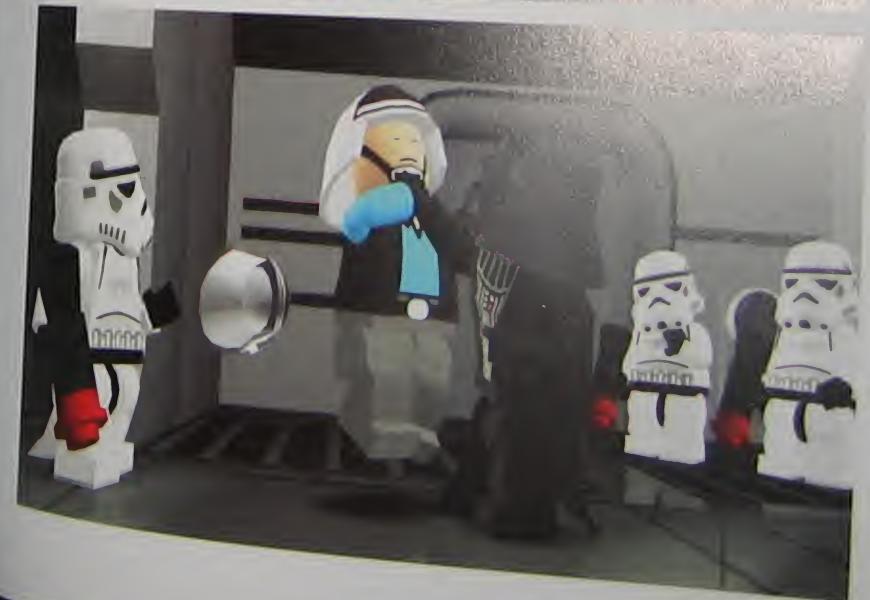
Opposite and pages 194-195: How could any gamer resist the opportunity to play all the great Star Wars movie moments with expertly stylized LEGO characters?

JUST ADD LEGO

It seemed like such a simple, kid-friendly idea: Tell the *Star Wars* story through the blocky filter of LEGO characters. The cute look of its *Star Wars* toys had contributed to fantastic sales at retail; presumably, its design application to a third-person action-adventure game featuring the Prequel Trilogy would appeal to the younger *Star Wars* audience.

LEGO *Star Wars* (2004) was developed by Traveller's Tales, a company that made family-style games, and was published by Eidos under license from LEGO and LucasArts. The game was a massive success, in 2006, with the release of the now LucasArts-published LEGO *Star Wars II: The Original Trilogy*, a bona fide game-industry phenomenon was born. Even with its cutesy LEGO visuals, the gameplay and style spoke perfectly to all ages. Parents had a game they could play with their children—one that told stories they loved and still provided a sublimely balanced gaming challenge. It was a near-perfect blend of two powerful brands with classic gameplay execution by the development team. That it proved so readily appealing to hardcore gamers and first-time gamers alike was a tremendous testimony to the collaboration of brand and design that LucasArts 2.0 would aim to deliver going forward.



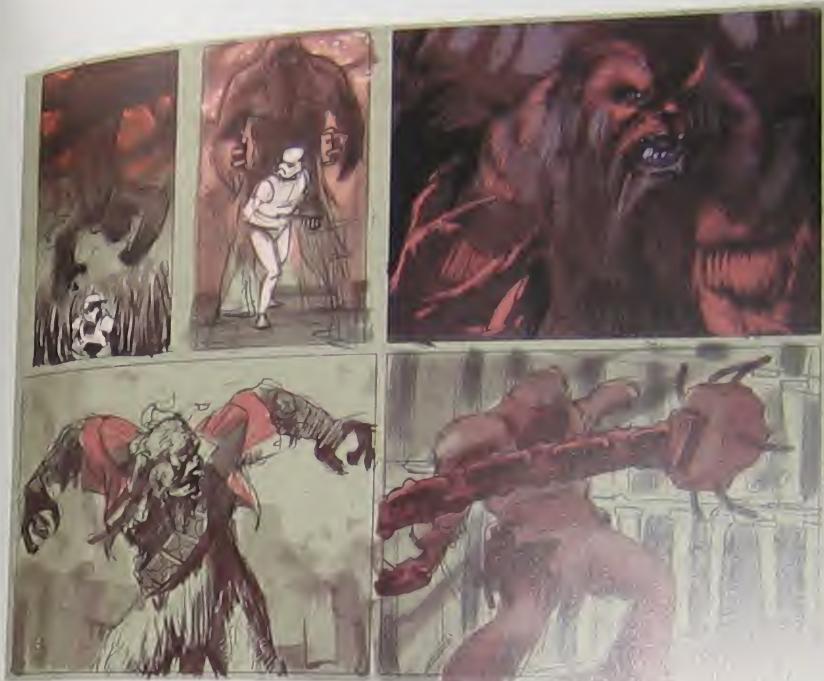




Rebel Warrior

The notion of playing as a powerful Wookiee, delivering payback against the invading Imperial forces on their home planet of Kashyyyk, has often emerged when new internal game concepts are considered. In fact, playing as a Wookiee was initially pitched as Rebel Warrior to George Lucas for the game that would ultimately become *Star Wars*.

The Force Unleashed (2008). Lucas shot down the notion of a Wookiee lead character on the grounds that the communication method of wailing grunts and barks didn't lend itself to character development and interactivity.



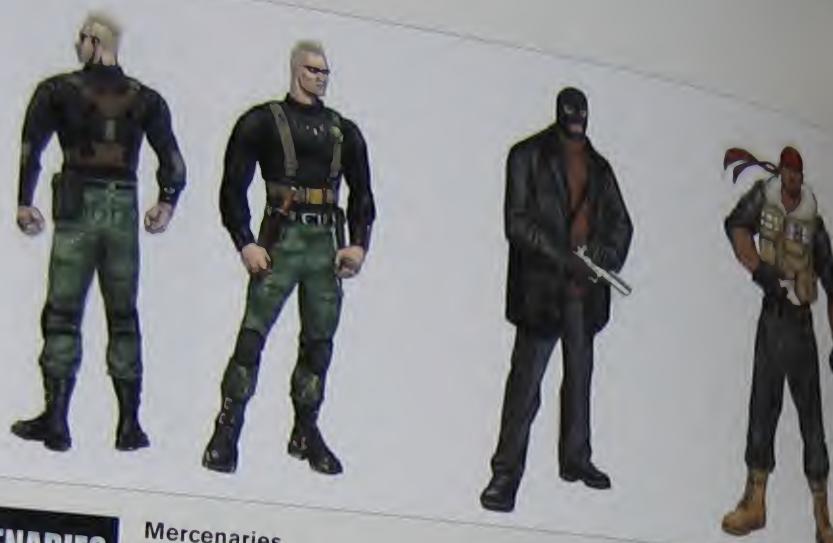


Above and right: Artist Greg Knight's concept paintings and sketches for a Wookiee-led assault on Imperial positions, and of breaking the shackles of confinement and slavery, are powerful in their own right. March 2005.

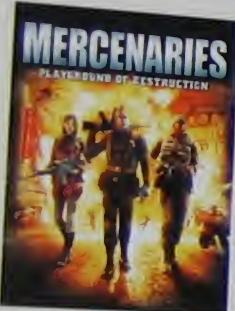


Left: Wookiee characters breaking a confinement from a painting for *Star Wars: Episode III*. March 2005.





Mercenaries



Above: Box art for *Mercenaries: Playground of Destruction* (2005)

Top: Character concept art for Pandemic's *Mercenaries*, by unknown artist

Bottom: Vehicle concept sketches for Pandemic's *Mercenaries*

Developer Pandemic Studios had been working on a remake of action game *Desert Strike* for the latest generation of consoles, to be published by Electronic Arts. That game was ultimately cancelled, but Pandemic turned its attention to a new project called *Mercenaries* (2005). This open-world third-person action game cast you as a modern bounty hunter operating in global hotspots.

The studio discussed a publishing deal with LucasArts, whose executives Pandemic president Josh Resnick says

"immediately understood the value behind *Mercenaries*." LucasArts picked up the publishing rights in late 2004 as the game shipped in 2005 with an impressive marketing campaign that blasted the action game onto TV screens with a tagline—"Playground of Destruction"—voiced by Jim Ward. Critically lauded by the *Electronic Games* press, *Mercenaries* also became the 15th best-selling game of the year, and, significantly, the No. 1-selling game in 2005.



© 2006
LucasArts



Thrillville

This simulation and strategy game, developed by Frontier Developments, placed the gamer in charge of an amusement park. The game was well received in 2006 and led to *Thrillville: Off the Rails* in 2007.



CORUSCANT VEHICLE
PERSONAL TRANSPORT



Knights of the Old Republic 3



Above, left: Concept painting of Coruscant vehicles by Molly Denmark. ©2005
Above, right: A new character named Narsissi, by Cory Allman. ©2004
Right: Character head sketch, by Cory Allman. ©2004

DEVELOPING WITHOUT WALLS 2001-2007

Upon the cancellation of the Proteus project, team and elements of the designs were applied to *Star Wars Knights of the Old Republic 3*, which, according to designer John Stafford, "got quite a bit of traction... we wrote a story, designed most of the environments/worlds, and many of the quests, characters, and items." However, this new game direction fell victim to LucasArts hitting possibly the most difficult period in the company's history.



Left: Concept painting of Taloren by Molly Denmark
Below, left: Concept art of Mandalore City layout by Denmark
Below, right: Environment painting with map, by Denmark
Bottom: Painting of Rodia crash site, by Denmark



THE NEXT GENERATION

2008 ONWARD

CHAPTER EIGHT



From past successes and lessons learned, from gambles made and lost, LucasArts looked to build on its storied legacy in a world where videogames were now a mainstream form of entertainment. The new direction of quantifiable growth from the company reboot was now entrenched as policy.

Top to bottom – from technology and design to marketing and distribution – the company strove to develop a balanced portfolio that would embrace the best of its blockbuster movie tie-ins alongside original new intellectual properties (IPs). And those original titles had to be special.

When *Fracture* (2008) was signed, it had already beaten out several prospective game pitches that had been conceptualized but discarded.

Produced by external developer Day 1, *Fracture* made the final cut in part because its unique gameplay mechanic that involved land earth-shattering technology to do some epic terrain deformation, according to Jim Ward, the mechanic that enlivened LucasArts' original look with this shooter. "Changing the landscape by changing the terrain was really appealing,"

Ward of *Fracture*'s methodology. Day 1 designed *Fracture* to have mega地雷场 so that players could defuse and trigger them so explosive devices to create both landmines and LucasArts was able to leverage its

partnership with LEGO, turning it into a company's other valuable intellectual property. Ward acknowledged that the initial concept had been woefully unmarketable and





Top: Box cover for LEGO Indiana Jones: The Original Adventures (2008)

Above: Box cover art for Fracture (2008)

Page 207 (top and bottom): Concept art of a battle in Washington, D.C., from Fracture, circa 2006. (Intel unknown)

Top, opposite, and pages 210–211: The wry art, varied locations, and dazzling stunts of the Indiana Jones movies find themselves perfectly at the spirit of LEGO Indiana Jones: The Original Adventures, developed here in concept art. (Image: Lantana unknown)



for several years, and LucasArts had kept its attention on "Indiana Jones" as "the every game genre." The formula of course was a timeless story with a timeless, boyish energy, a mood so perfectly with LEGO. *Star Wars* had no application to this legendary adventure series without easy decision. The action in *LEGO Indiana Jones: The Original Adventures* (2008) is brash, funny, and occurs in fascinating locations around the globe.

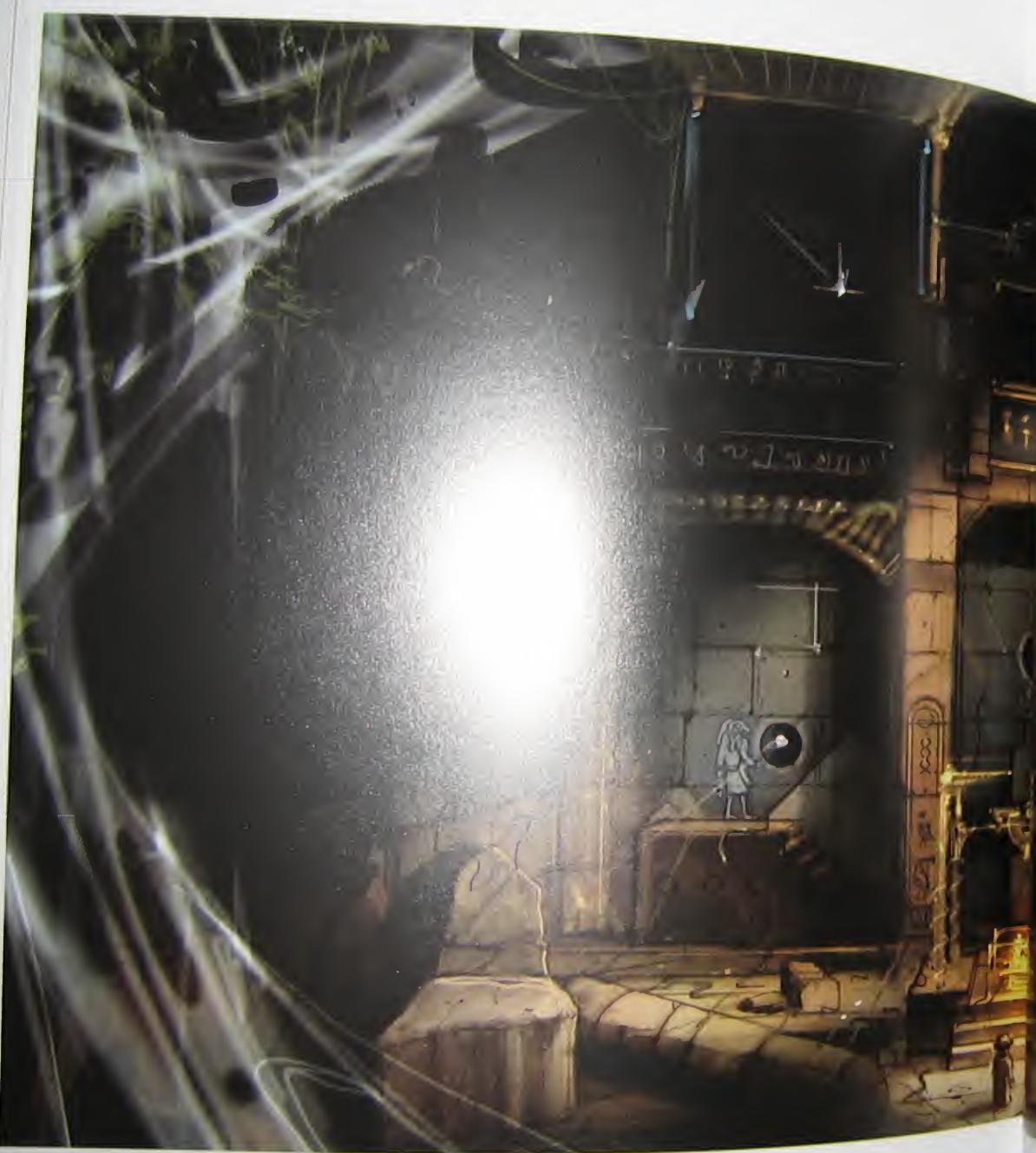
EPISODE III.5

Ward's stated intention was to have as many internally developed games in production as games crafted at external studios, and those internal games were entrusted with Lucasfilm's key properties: *Star Wars* and *Indiana Jones*. The publisher had developed and licensed new technology to better immerse the

gamer in the story, and it was being used to shed light on the backstory of the classic characters from the big screen. As the first game to emerge after the blockbuster *Star Wars: The Force Unleashed* (2008) was using this newly created technology to further the movie's storyline. Whereas Lucasfilm had once propelled the *Star Wars* franchise forward through its massive movie releases, LucasArts now assumed that critical role in a new medium, developing key elements between *Episodes III and IV* that shed light on the entire *Star Wars* saga.

(continued on page 214)





210 THE NEXT GENERATION 2006-ONWARD





Best Tech Practices

To power LucasArts' lofty ambitions, now, the company had to generate the kind of experiences that new platforms offered and fans expected. Two key pieces of externally developed technology were chosen to help the game designers deliver their ambitious vision.

Technology developer NaturalMotion's euphoria engine, a biomechanical artificial intelligence simulator, promises to apply behavior to a character based on its environmental situation. If an enemy is punched off a balcony, will he try to grab onto a ledge, reach for a beam, or plummet to the ground? Instead of creating numerous animations to cover all possible outcomes, the euphoria engine simulates the possible behavior and streamlines the outcome.

George Lucas, of course, had to sign off on LucasArts' intended investment in the internal technology infrastructure. The planned relationship with NaturalMotion would go beyond a regular licensing agreement, ensuring that the technology was intimately integrated across the new internal organization of development teams. A relatively simple demo test was created to illustrate that flexibility. Vice president

of product development Hirschmann recalls a scene in the demo where a bad guy is hit and rolls down the stairs, while Indiana Jones leaps onto a chandelier to avoid the explosion of gunpowder barrels that are helping dispatch his enemies. To prove the game-agnostic nature of the technology, a stormtrooper was dropped into Marion's bar from the *Indiana Jones* movies and reacted realistically to the scene using his blaster, dodging, and seeking cover. Once the euphoria engine showed its versatility in handling the various games in the LucasArts' stable—and its ability to make an impressive impact on visual effects and game play—Lucas signed off on the pact and the companies forged a deal to bring NaturalMotion's technology to future games.

The other major piece of technology that was used to bring fidelity to the game world came from a group called Pixelux. This team produced what they called a "digital molecular matter system", essentially an engine that represents materials with remarkable realism, enabling materials to act and react like their real-world counterparts. "Pixelux is nothing short of simulating the actual elements

After seeing a demo of the technology in action, LucasArts signed a deal with the Pixelux team and gave them their own space within the LucasArts facility so they could work closely with the game-design teams.



Opposite, left, and above: The philosophy of visual augmenting story begins with concept art (opposite and left) by Amy Barth Christensen, circa 2005, used to communicate a game's point. Technology brings this vision to life as seen in the above screenshots from *Star Wars: The Force Unleashed* (2008).

Tech for Success

The commercial success of *Battlefront* (2004) gave LucasArts the opportunity to begin serious investment in its technology base. A guiding George Lucas principle, however, was that a visual effect by itself is boring, while a visual effect in the service of a story is something special. For LucasArts, this philosophy meant a concurrent commitment to creating next-generation game engines and pipelines, including technologies that would deliver the visual effects and to creating stories that would give them impact. Technology wouldn't be invented just for the sake of having it.

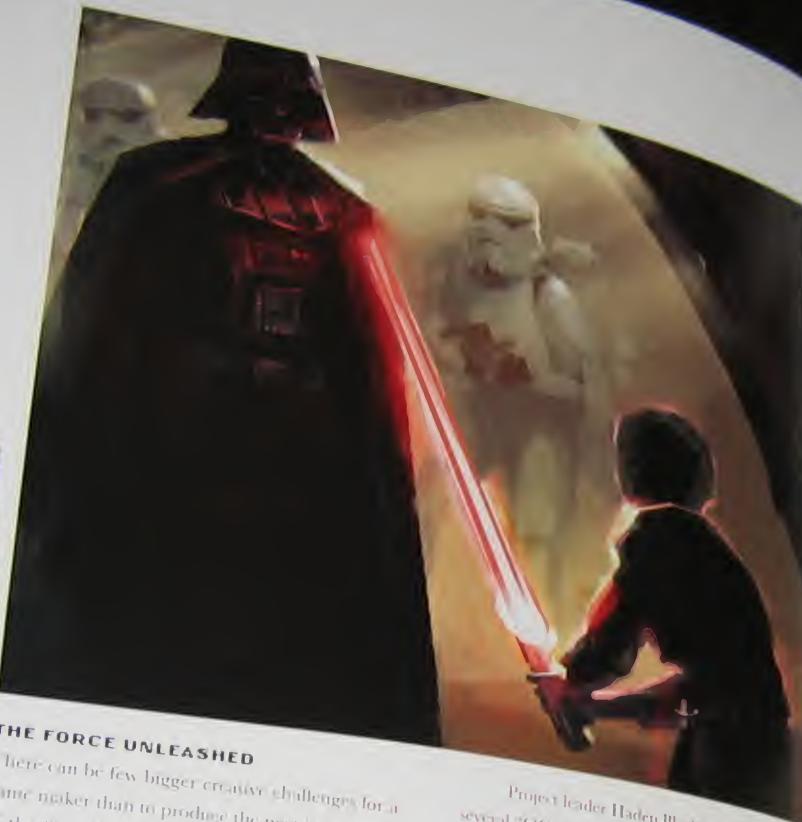
Arts Center in San Francisco's Presidio. Whereas before the two internal companies were separated by a short but significant 10-minute drive, they would now share the same buildings—and, more important, similar digital pipelines.

As a result of this closer relationship, games-group engineers meet with technicians from ILM every week. Though it seems natural for LucasArts to leverage the innovation of its sister company, the video world and the videogame world were for a long time considered non-compatible. "It's incredibly hard because the visual effects in games and movies are so different," explains Hirschmann. "Though they're both working in the visual arts, they work in different media."

In a business world dominated by convergence—where companies and technologies find synergies to help build better products—LucasArts also profited from those economics in its internal relationship. Of course, while business factors are at the heart of most decisions, the actual application has a more human flavor, Hirschmann concludes that “it’s all about people rolling up their sleeves, taking initiative, and making the magic happen.”



Above: Box art for the Xbox 360 version of *Star Wars: The Force Unleashed* (2008).
Right: Concept art for *Star Wars: The Force Unleashed* showing Vader facing someone who would become his secret apprentice, by Amy Beli Chisholm, circa 2005.



THE FORCE UNLEASHED

There can be few bigger creative challenges for a game maker than to produce the next installment of the *Star Wars* saga. That, coupled with using the new NaturalMotion and Pixelux engines (see Best Tech Practices, page 212), created an ebb and flow of morale during the production of *The Force Unleashed*; due to the enormity of the task, Hirschmann described the process as, at times, exhausting. "There's little room for error," Hirschmann said during development. Getting the tools and pipeline in place proved to be incredibly challenging. Yet getting the process right was a priority for the future. "Making a shared-tech effort is absolutely a goal we all believe in."

Project leader Haden Blackman went through several "OG meetings"—a.k.a. Operation George, where the team meets with George Lucas. "The period between Episodes III and IV is very frenetic," says Blackman, "but we got direction from George that if this is the next chapter, it needs to be about Vader." That alone sent the team back to the drawing board, after some thirty different concepts had seen them toy with a smuggler character, a Darth Maul game, and, particularly, a Wookiee game (see sidebar, page 196).

Eventually, the shift toward Darth Vader led to a plot involving a secret apprentice, and Lucas signed off on that player-character. He also wanted to ensure that gamers played and witnessed human interaction



Left: A mid-concept sketch showing Darth Vader facing someone who would become his secret apprentice, by Amy Beli Chisholm, circa 2005. Right: Concept art for *Star Wars: The Force Unleashed* (2008).



"Going in, I was scared because we were re-defining the Force. But then I was more scared when George said to go do it."

—Haden Blackman, project leader



which led to the introduction of a sidekick character who could offer some comic relief, along with a love interest. Each of these characters would provide different responses to the apprentice, a fundamentally dark figure. In early designs, Leia had a big role as someone the apprentice had to protect, but the team later decided to use a new character instead because given the timeline, gamers would know with whom Leia ends up, thus removing possible plot tension.

From a gameplay standpoint, Blackman wanted the Force powers to be over-the-top. When he showed Lucas a preview where a character throws stormtroopers into TIE fighters, he was instructed to

go do that game. "Going in, I was scared because we were re-defining the Force," says Blackman. "But then I was more scared when George said to go do it."

Realizing the studio couldn't staff two full projects, the company made an internal adjustment, re-signing resources from the *Indiana Jones* project also in development. *Star Wars* went from being the scrappy underdog—always having to fight for any person, any resource—to getting it all, and a lot of people from the *Indy* team had to stop work on that game to help out on *Star Wars*, says Hirschmann.

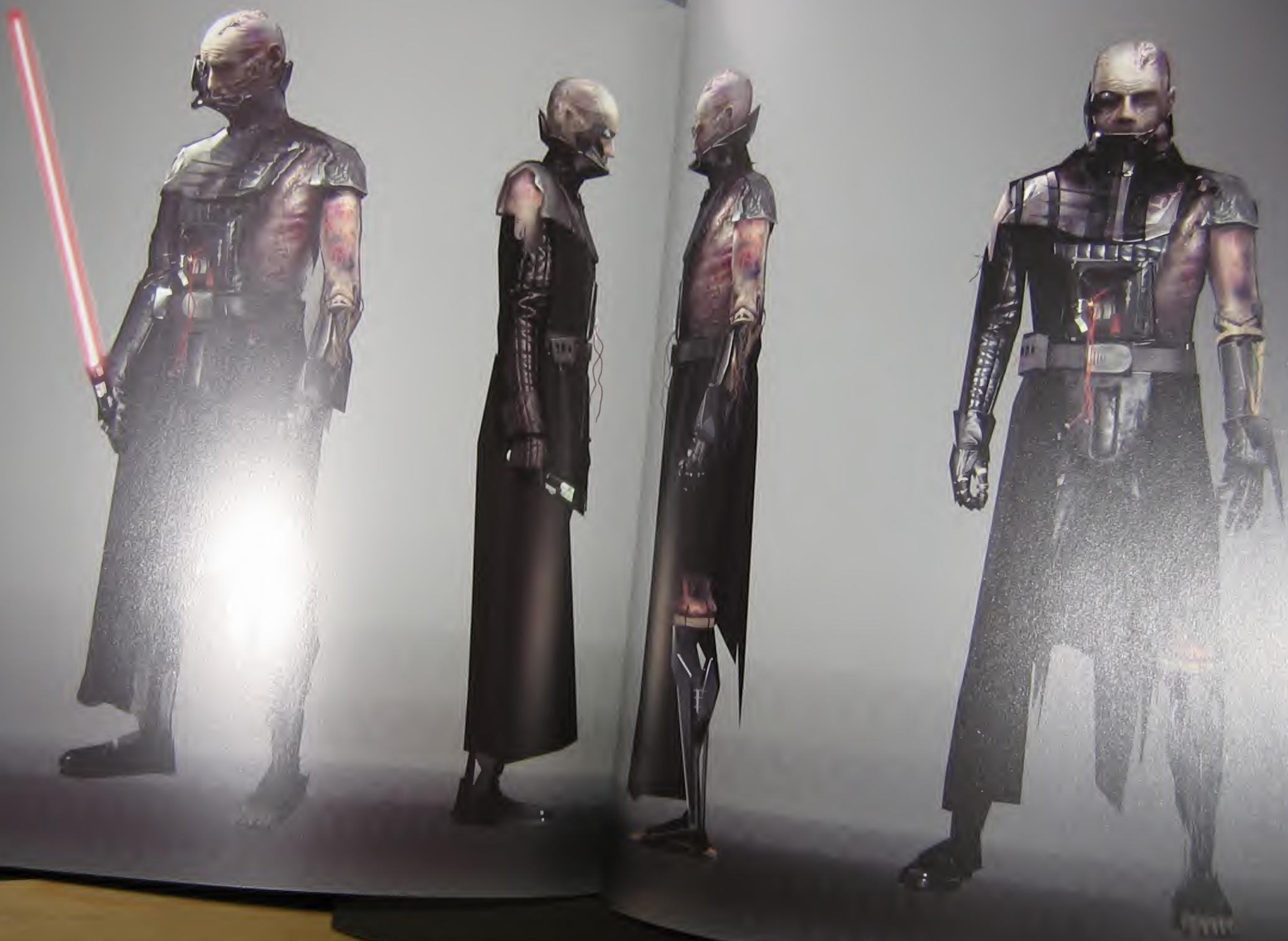
The result showed in the first Force Unleashed gameplay trailer, which was screened for the enthusiast

Left: Concept paintings of Jedi characters, by Greg Knight, circa 2005

Opposite: Concept painting by Knight of a scene in *Star Wars: The Force Unleashed* (2008)

Pages 218–219: Concept painting of a damaged Vader, by Stephen Chang

(continued on page 220)





Top: Artist Greg Knight's early storyboards show Force powers in an action sequence for *Star Wars: The Force Unleashed*, circa 2005.

Right: George Lucas encouraged the team to create new characters to be stars of the new game stories, rather than relying on the famous names of the classic *Star Wars* canon. Jedi general painting by Amy Beth Christensen, circa 2005.

Opposite: Concept painting of the lead character using his Force powers in battle, by Christensen, circa 2005.

press and released online. The scale of the action sequences in the game required that this *Star Wars* adventure was to be a true cinematic experience. Furthermore, to make sure that the game was a true *Star Wars* experience, the developers wanted to ensure that core *Star Wars* elements like the look of the world as it's presented, the characters, and the player's own decisions on direction in the game were consistent and methods of interacting.

Lucas signed off on a three-pronged production strategy that would simulate both the environmental world and the physical interaction of objects, while also advancing the story narrative, in one seamless experience. "George is very savvy about gameplay mechanics," explains Blackman. "He understands that different mediums need to take *Star Wars* in slightly different directions."



"As a lifelong *Indy* fanboy, it's about as nerve-wracking as it gets to go in front of George and present a story."

—Peter Hirschmann, vice president of product development

LONG LIVE INDY

Before Lucasfilm began work on the massively anticipated new movie *Indiana Jones and the Kingdom of the Crystal Skull*, LucasArts had already decided to reinvigorate the character by bringing Indy to a new generation of gamers in an original adventure. Set in time slightly after *The Last Crusade*, this Indy game was written under the direction of George Lucas to expand upon the classic adventures without treadng on territory that a fourth movie may cover. LucasArts was well into pre-production when the scenario for the new film was finalized. When it came time to light the game for full production

to come from the key stakeholders

and Steven Spielberg.

It was clearly time for a new direction, and a process Hirschmann describes as

"wracking." The team had no choice but to be thoroughly prepared for every eventuality, every question, due to the premium placed on Lucas' time. "As a lifelong *Indy* fanboy," says Hirschmann, "it's about as nerve-wracking as it gets to go in front of George and present a story." With the new movie's scenario still in progress and a secret, even sharing an outline of it with the game makers was impossible. According to Hirschmann, however, Lucas led the team away from certain situations and characters that were potentially a part of the movie plot, instead guiding them toward paths that would embellish aspects of the screen story.

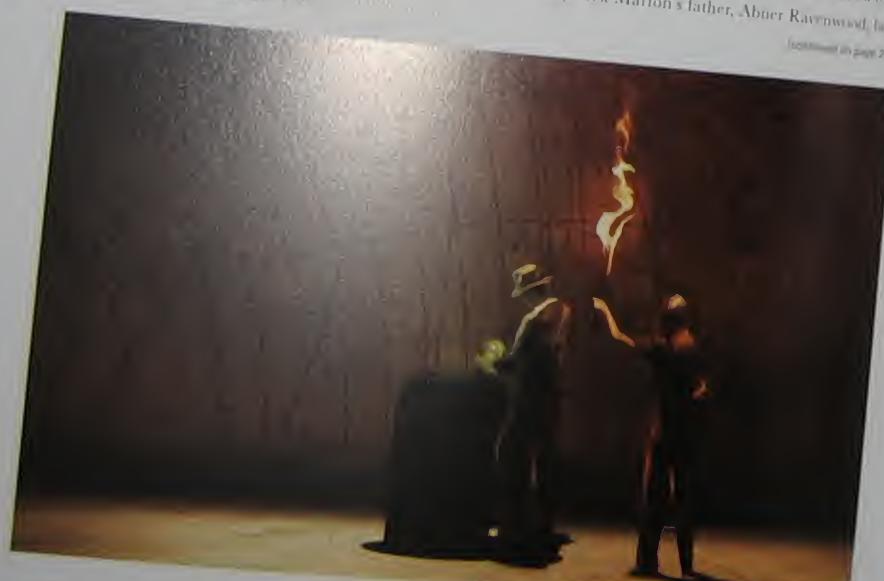
The first version of the game tale involved Marion Ravenwood, but the team was steered away from including her. Hirschmann's crew wanted to bring back Marion's father, Abner Ravenwood, but

(continued on page 228)

Bottom: Concept painting of the untitled *Indiana Jones* game (2009) for the long-awaited return of everyone's favorite archaeology professor, by Chris Vay.

Opposite: Concept painting for the *Indiana Jones* game, by Molly Denman, circa 2005.

Pages 224-225: Environment sketch by Mike Lee, circa 2006.

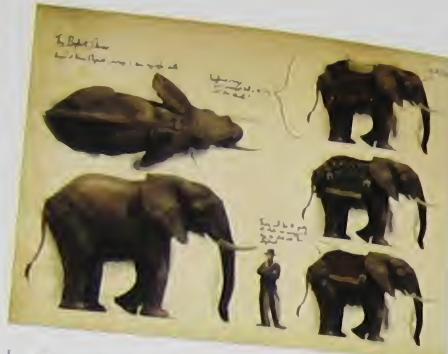


INDIANA JONES
Peter Hirschmann



Right: Concept sketches for elephants and locations in the *Indiana Jones* game (artists unknown)

Opposite: Game designers alongside their movie inspirations provide backstory and side details to the main plot delivered on the big screen, as seen here in concept paintings for the untitled *Indiana Jones* game by Chilli Vay (top), Molly Denmark (middle) and Mike Lee (bottom)



Lucas confirmed that he was officially dead and that the game couldn't go against continuity established in the film universe. But Lucas did give the designers latitude to create a few new characters to play significant roles. A game location that was already being used in the movie necessitated another change.

One critical factor that needed sign-off from Lucas and Spielberg was the "Mac Guffin"—usually an object unimportant in itself but which drives the plot (*à la* the Ark of the Covenant in *Raiders of the Lost Ark*). The final choice passed muster at the top level, and also tested well with focus groups.

Lucas agreed that the story could take place in 1939, which Hirschmann describes as "the biggest creative decision that [George Lucas] has made for us" because it helped shape the style of bad guys, as well as game functionality and features. But Lucas wasn't the only hand helping to guide the game's direction. Hirschmann, a former assistant at Spielberg's production house Amblin Entertainment, also had to run the idea by his former boss. By the time the game was in preproduction, Spielberg was already in



full *Indiana Jones* mode, ready to oversee the story, the art style, the technology, and the game-design work. "We had to be prepared," recalls Hirschmann, "because his time is so valuable."¹³ During the meeting, the director provided feedback on details ranging from how Indy looked to how the game mechanics worked, and even on how homages to the first three movies could be incorporated into the story.

(continued on page 212)



Star Wars: The Clone Wars-Jedi Alliance and Star Wars: The Clone Wars-Lightsaber Duels

In concert with the animated TV series currently in production (debuting in October 2008), LucasArts is also working with its Singapore-based facility to bring *Star Wars: The Clone Wars* to gamers. Lucas Licensing, following LucasArts' mandate, plans for that new franchise extension to be

supported by videogames, action figures, books, and comic books, to ensure the widest possible reach. A wholly original set of new creatures needed to be designed for the *Clone Wars* project, and produced in a style that matches the animated series' new, distinctive look.

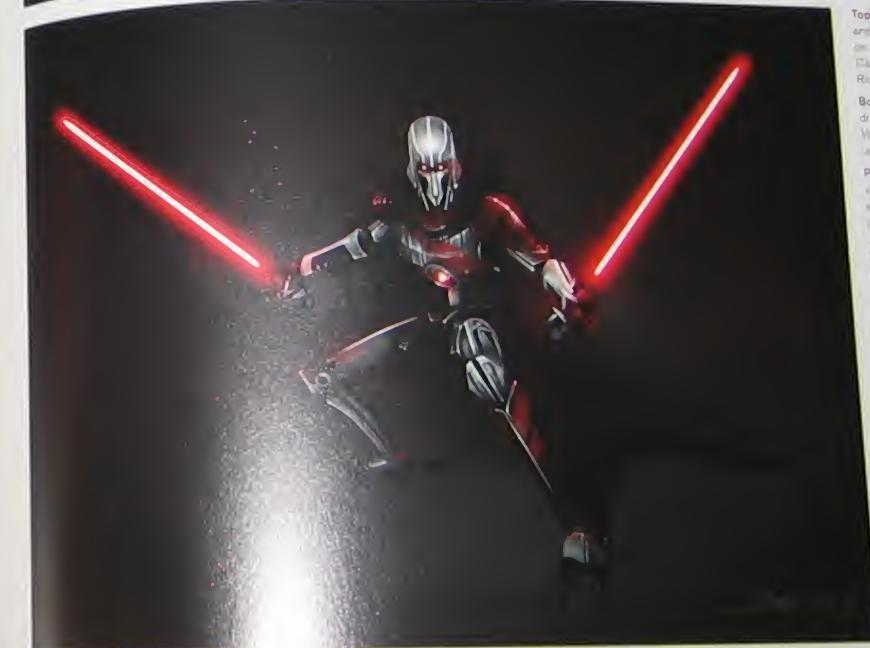


Above: Box covers for *Star Wars: The Clone Wars-Jedi Alliance* (2008) and *Star Wars: The Clone Wars-Lightsaber Duels* (2008). *Jedi Alliance* was developed at the LucasArts Singapore offices, while *Lightsaber Duels* was developed by Krome Studios.

RIGHT: Concept rendering of a Jedi working on an attacking submarine weapon for *Star Wars: The Clone Wars-Jedi Alliance* by Chung Kuo Chung, circa 2007.



Top: Concept painting of C-3PO and R2-D2 at a dimly lit workshop on Coruscant for *Star Wars: The Clone Wars-Jedi Alliance* by Richard Liu, circa 2007.



Bottom: Concept art of a Jedi droid for *Star Wars: The Clone Wars-Lightsaber Duels* by Richard Liu, circa 2007.

Pages 230-231: The *Clone Wars* story will open up opportunities to explore new locations, including underwater battles where the Jedi get to demonstrate their swimming skills, shown in this concept painting for *Star Wars: The Clone Wars-Jedi Alliance* by Chung Kuo Chung, circa 2007.

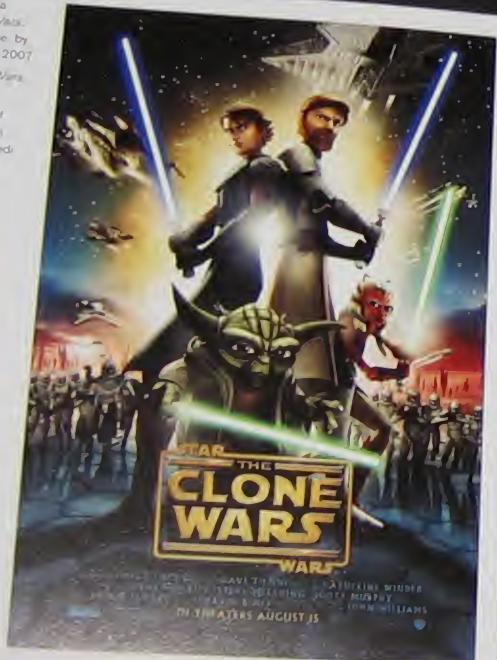




Above: Concept painting of a super buzz droid from *Star Wars: The Clone Wars - Jedi Alliance*, by Cheng Khai Chua, March 8, 2007.

Right: Movie poster for *Star Wars: The Clone Wars* (2008).

Far right: Concept paintings of Nightstalker boss characters from *Star Wars: The Clone Wars - Jedi Alliance*, by Richard Lim, circa 2007.



TWENTY-FIVE YEARS YOUNG

Along with elevating the gaming experience through technology and crafting newly effective pipelines within its own broader organization, LucasArts placed a renewed emphasis on expanding its games' appeal beyond the core videogaming audience. For many games-industry decision-makers, building a product pleasing to a mainstream audience has involved limiting its scope and ambition, but LucasArts believed that making games more accessible does not mean "dumbing them down"; it means making them smarter. Indeed, crafting videogames that were "dumber" had spelled doom for many movie companies that had leaned too heavily on a film license without regard for what gamers would want.

While some of these projects don't necessarily bring in money, the failure to produce a compelling title can tarnish the very intellectual property that the game is trying to support.

The continued convergence of videogames and the broader entertainment industry made Darrell Rodriguez a natural fit to lead LucasArts after Jim Ward left the company in early 2008. Prior to being named LucasArts president in April 2008, Rodriguez served as chief operating officer at Electronic Arts LA, and he also worked at another legendary entertainment company, Walt Disney Imagineering. His blend of production, operational, and creative expertise will be a key factor in moving LucasArts forward into the next evolution of gaming.

Above: LucasArts is housed in the Lucasfilm Digital Arts Center in San Francisco's Presidio, where ILM and Lucasfilm are also based. The former is focused on research-heavy robotics, film, and videogame technologies to create innovative entertainment for the future.

"LucasArts is in a unique position to attract the best creative talent, which can play a profound role in creating new properties and re-defining interactive games for the future."

—Darrell Rodriguez, president of LucasArts

From *Ballblazer* and *Rescue on Fractalus!* to *LEGO Star Wars* and *Star Wars: The Force Unleashed*—via original titles such as *Monkey Island* and so many more—under the guise of Lucasfilm Games and LucasArts Entertainment Company—*from the transition of a total company reboot*—LucasArts has delivered 25 years of spectacular game experiences. While consoles arrived amid thunderous hype and disappeared to be replaced by the next great innovation, and as upgraded PCs emerged with power sufficient to control a Death Star, the games of LucasArts have tested trigger fingers and strategic acumen, tickled funny bones and wowed the senses.

Of the thousands of companies that have tackled the constantly changing videogame industry, few have displayed such stamina. Fewer still can point to a portfolio of products that have inspired gamers of all ages and interests to offer their thanks. While staying relatively small, being one of the first, and remaining economically powerful, the studio has grown and shrunk, produced innovations and derivative duds, and made it again millions. But at the heart of it all has always been an unerring commitment that gamers of all ages will want to share with friends. Millions of people have spent untold hours of interactive entertainment because of that dedication.

Looking toward the future, LucasArts has made it clear to the company that it would like to see at least half of their products

Opposite: A pencil sketch of classic characters who have appeared in LucasArts games during the last quarter-century

Team 3

Star Wars and *Indiana Jones* offer rich universes for game developers to explore, but now intellectual property has always been a part of LucasArts' DNA. So when George Lucas signed off on an original project from the internally named group "Team 3," it was a big deal for the entire organization.

To kick-start the project and spark the team's creative juices, a workshop at Skywalker Ranch involved writers from the hit TV shows *Heroes* and *Lost*, plus other folks who helped brainstorm concepts for this new franchise. Attracting this level of writing talent would ordinarily be hard in the gaming world, but the mandate from Lucas to make this project everything it can be—along with Lucas' recommendation—helped secure some of the best writers in the business. What they eventually create could be the future of gaming.

experiences that aren't related to *Star Wars* or *Indiana Jones*. Rodriguez, for one, relishes the opportunity LucasArts is in a unique position to attract the best creative talent, which can play a profound role in creating new properties and re-defining interactive games for the future." With George Lucas and his companies serving as the launching pad for incredible interactive experiences, where imagination can be projected to gamers using some of the most cutting-edge technology at work in the games industry today, the possibilities are out there...way, way out there, in galaxies far, far away...



Timeline



1982 & 1983

Lucasfilm Games Group Formed

Pete Langston is hired to head the group within the Computer Division with a mandate to find high-tech approaches to the entertainment industry that wasn't games. The small team moves to Kerner Blvd in San Rafael, Calif.

1984

First Games Released

Balblazer and Rescue on Fractall, designed by David Levine and David Fox, receive critical success after extensive publicity on their native Acorn 800 platform. Now at five people (Langston, Gary Winnick, David Fox, Charlie Kellner, and David Levine), the Lucasfilm Games division becomes an independent business entity within Lucasfilm. Steve Arnold takes over leadership from Langston.

Balblazer

(Amiga 800)
Programmers: David Levine, Gary Winnick, Pete Langston, David Riedman

Rescue on Fractall!

(Amiga 800)
Designers: David Fox, Lori Carpenter, Pete Langston
Programmers: Lori Carpenter, David Fox, Pete Langston, Charlie Kellner
Director: David Fox

1985

The Second Wave

Early Lucasfilm Games employees Noah Falstein and Charlie Kellner design the next two games to use the fractal technology for release through new distributor, Lpvs. The group moves to the "Z" building in San Rafael and triples in size. It restructures to become a project-oriented group, and becomes profitable.

The Eldolon

(Amiga 800, Commodore 64)
Project Leader: Charlie Kellner

Koronis Rift

(Amiga 800, Commodore 64)
Project Leader: Noah Falstein

1986

Movies and Simulations

The Jim Henson movie becomes a game for PC through Lucasfilm Games, and Charlie Kellner designs the next two games to use the fractal technology for release through new distributor, Lpvs. The group moves to the "Z" building in San Rafael and triples in size. It restructures to become a project-oriented group, and becomes profitable.

The Empire

(Amiga 800, Commodore 64, Apple II)

Project Leader: Charlie Kellner

1987

SCUMM Is Born

Newcomer Ron Gilbert's first adventure game is powered by the perfect engine: SCUMM. Creation Utility for Macintosh Strike Fleet, the sequel of sorts to PHM, begins with QuantumLink on a Macintosh in Virginia. Pegasos builds more awesomeness in the simulation market. Maniac Mansion goes on to win many "Game of the Year" awards from the electronic-entertainment press, including Computer Entertainment, Happy Computing, and COMPUTE.

Indiana Jones

(Amiga 800, Commodore 64, Apple II)
Project Leader: Ron Gilbert

Programmer: Mark Hugh Hutchinson

Maniac Mansion

(IBM PC, Amiga, Atari ST, Commodore 64, Apple II)
Creators: Ron Gilbert, Gary Winnick
Programmers: Ron Gilbert, David Fox

Strike Fleet

(IBM PC, Commodore 64, Apple II)
Principal Designer & Project Leader: Noah Falstein

1988

SCUMM Buds

SCUMM Buds is a spin-off of the SCUMM engine, designed for the Amiga. It's a game about a group of bunnies who are trying to find their way back to their home. It's a game that's very similar to Maniac Mansion, but with a different setting and characters.

Indiana Jones

(Amiga 800, Commodore 64, Apple II)
Project Leader: Ron Gilbert

Programmer: Mark Hugh Hutchinson

1989

The Movie Game

For the first time, a Lucasfilm movie is brought to the small screen. The entrance into the simulation market pays dividends as it's strong reputation develops. Electronic Arts is selected as the new distribution partner for Lucasfilm Games products.

Indiana Jones and the Last Crusade: The Action Game

(IBM PC, Amiga, Atari ST, Mac)
Programmer: Mark Hugh Hutchinson

Indiana Jones and the Last Crusade: The Graphic Adventure (IBM PC)
Designers: Noah Falstein, David Fox, Ron Gilbert

Indiana Jones and the Temple of Doom

(IBM PC, Amiga, Atari ST, Mac)
Designers: Noah Falstein, David Fox, Ron Gilbert

Pipe Dream

(IBM PC, Amiga, Atari ST, Mac)
Designers: Akila Redmer, Stephan L. Butler

Their Finest Hour: The Battle of Britain

(IBM PC, Amiga, Atari ST)
Project Leader: Larry Holland

Night Shift

(IBM PC, Amiga, Atari ST, Mac)

Designers: Chris Gibbs, Jon Steele, Robert Gill, Jon Dean, Akila Redmer

Lead Designer: Brian Moriarty

The Secret of Monkey Island

(IBM PC, Amiga, Atari ST, Mac)
Designer: Ron Gilbert

Programmers: Ron Gilbert, David Grossman, Tim Schafer

Producers: Akila Redmer

Secret Weapons of the Luftwaffe

(IBM PC)
Project Leader: Larry Holland

The Secret of Monkey Island

(IBM PC, Amiga, Atari ST, Mac)
Designer: Ron Gilbert

Programmers: Ron Gilbert, David Grossman, Tim Schafer

Producers: Akila Redmer

Star Wars

(NES)
Beam Software

Producer: Akila Redmer

Indiana Jones and The Fate of Atlantis: The Action Game

(IBM PC, Amiga, Atari ST)

Animation: David Lupton

Writer: Hal Barwood

Indiana Jones and The Fate of Atlantis

(IBM PC, Amiga, Color Mac)

Project Leader: Hal Barwood

Designers: Hal Barwood, Noah Falstein

Indiana Jones and The Empire Strikes Back

(NES)
Sculptured Software

Designers: Mark Eberle and

Kalani Streicher

Indiana Jones and The Empire Strikes Back

(NES)

Designers: Mark Eberle and

Kalani Streicher

Indiana Jones and The Empire Strikes Back

(NES)

Designers: Mark Eberle and

Kalani Streicher

Indiana Jones and The Empire Strikes Back

(NES)

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Kalani Streicher

Indiana Jones and The Empire Strikes Back

(NES)

Designers: Mark Eberle and

Kalani Streicher

Indiana Jones and The Empire Strikes Back

(NES)



1993

Filming FMV
(Full-Motion Video)

Maniac Mansion:
Day of the Tentacle
(C64/PC/CD ROM)
Designer: Don Bluth
Developer: LucasArts
Producers: Jim Adair
Art Directors: Don Bluth
Sound: Doug Kay
Music: Jerry Lewis
Sam & Max Hit the Road
(SNES)
Designer: David J. Prowse
Developer: Steve Clegg
Art Director: Steve Pfeiffer
Music: Steven
Programmers: (multiple authors), Chris
Tucker, Luis Breyer, Michael Bostick
Star Wars: Rebel Assault
(PC/CD ROM/Sega CD)
Designer, Programmer & Project
Leader: Ivan Ma
Star Wars: X-Wing
(PC/CD)
Designer: Steve
LucasArts Producer: Kevin
Super Star Wars: The Empire
Strikes Back
(SNES)
Designer: Steve
Programmers: Kevin
Zombies Ate My Neighbors
(SNES)
Designer: Steve
LucasArts Producer: Kevin

1994

Star Wars: Sims Smash

After the huge success of
N-Wing, the opportunity
to fly the Legion's TIE
bombers always irresistible.
Klaus Dose Kay becomes
the company's new creative officer.

Ghoul Patrol

(SNES)
Designer: Edan Grosser

Star Wars: TIE Fighter

(SNES/PC)
Totally Games
LucasArts Producers: Kevin
Tucker and Wayne Clegg

Super Star Wars:
Return of the Jedi

(SNES)
Designer: Kevin

1995

Foray in to First-Person

The first-person action genre
is here to stay and what game
wouldn't want the company
with the established adventure
and simulation pedigree to
take on this challenge? Proving
that SCUMM still has life
one of the most revered
adventure series of all time
has come to life. Jack Sorokin
has come to LucasArts as Lucas
Arts' new head of Lucas
Arts' new division, Lucas
Arts' new head of Lucas

Quick Forces

records with
Lupped in
The Dig
the best
game

Full Throttle

(PC CD-ROM/Mac CD)
Designer & Writer: Tim Schaefer
Lead Programmer: Stephen R. Stein

Metal Warriors

(SNES)
Producer: Wayne Clegg
Designers: Mike Ebert, Dean Sharpe

Star Wars: Dark Forces

(PC CD-ROM/Mac CD)
Project Leader: Darren Barnes
Lead Programmer: Ray Davis

Star Wars: Rebel Assault II
The Hidden Empire

(PC CD-ROM/Mac CD)
Project Leader: Vivial Lee



1996

Refining the Art

LucasArts' game franchises
are crafted to near perfection
with Monkey Island, Jedi
Knight, and N-Wing getting
re-ops that build on their
key reputations. LucasArts
also releases its first game
for the Sega Saturn and PlayStation
platforms. Microsof's
Intervision Games' Zuma is
selected as the primary host
of Jedi Knight Dark Forces II
multiplayer capabilities.

Ballblazer Champions

(PlayStation)
Facility 8

The Curse of Monkey Island

(PC/Windows)
Project Leaders & Designers:
Jonathan Achey, Larry Ahern

Herc's Adventures

(Windows/PlayStation)
Big Acid Productions
LucasArts Production Manager:
Gerry Bowser

Outlaws

(PC/Windows)
Lead Designers: Stephen R. Stein,
David Sharpen

Star Wars: Jedi Knight - Dark Forces II

(PC/Windows)
Project Leader: John R. Choi
Lead Designers: Peter Orton,
Lead Programmer: Ray Davis



1997

Refining the Art

LucasArts' game franchises
are crafted to near perfection
with Monkey Island, Jedi
Knight, and N-Wing getting
re-ops that build on their
key reputations. LucasArts
also releases its first game
for the Sega Saturn and PlayStation
platforms. Microsof's
Intervision Games' Zuma is
selected as the primary host
of Jedi Knight Dark Forces II
multiplayer capabilities.

Star Wars: Masters of Teräs Käsi

(PlayStation)
Project Leader, Designer &
Programmer: Troy Hash

Star Wars: X-Wing vs. TIE Fighter

(PC/Windows)
Totally Games
LucasArts Executive Producer:
Steve Beckerman

Star Wars: Yoda Stories

(PC/Windows)
Programmers: Bill McLean,
David Gault, Stephen White
Producer: Gabriel Jones

Ballblazer Champions

(PlayStation)
Facility 8

The Curse of Monkey Island

(PC/Windows)

Project Leaders & Designers:

Jonathan Achey, Larry Ahern

Herc's Adventures

(Windows/PlayStation)

Big Acid Productions

LucasArts Production Manager:

Gerry Bowser

Outlaws

(PC/Windows)

Lead Designers:

Stephen R. Stein

Star Wars: Jedi Knight - Dark Forces II

(PC/Windows)

Project Leader:

John R. Choi

Lead Designers:

Peter Orton

Lead Programmer:

Ray Davis



1998

New Adventures

Interrific's vision and style
allow a quirky adventure
game based on the Mexican
Day of the Dead to become
a critical darling of the PC
adventure category.

Grim Fandango

(PC/Windows)
Project Leader: Tim Schafer
Lead Artist: Paul Tuck
Lead Programmer: Bill McLean

Star Wars: Yoda Stories

(PC/Windows)
Programmers: Bill McLean,
David Gault, Stephen White
Producer: Gabriel Jones

Star Wars: Rebellion

(PC/Windows)
Clement Provenzano
LucasArts Production Manager:
Wayne Clegg

Star Wars: Rogue Squadron

(Windows/PlayStation)
Facility 8
LucasArts Producer:
Mark Hinkle-Huckeby

Star Wars: The Phantom Menace

(PC/Windows/PlayStation)
Big Acid Productions
LucasArts Production Manager:
Gerry Bowser and Jonathan Achey

Star Wars: Episode I Racer

(PC/Windows/PlayStation)
Project Leader:
Eric Johnson and Michael
Propp
Programmers: Eric Johnson,
Michael McElroy,
John Cline

Star Wars: X-Wing Alliance

(PC/Windows)
Project Leader:
Eric Johnson and Michael
Propp
Programmers: Eric Johnson,
Michael McElroy,
John Cline



1999

Star Wars: Episode I Arrives

His new movie has already
in a media frenzy. In turn
game developers are jumping
on the bandwagon to create
a critical darling of the PC
adventure category.

Indiana Jones and the Infernal Machine

(PC/Windows)
Project Leader & Designer:
Hal B. Klein

Star Wars: Episode I: The Phantom Menace

(PC/Windows)
Big Acid Productions
LucasArts Production Manager:
Gerry Bowser and Jonathan Achey

Appendix A

Rescue/Concept Document

David Fox
RebelTech Games Department
Lucasfilm Ltd.
January 12, 1983
Revised 2/09/83

Introduction

This concept document describes *Rescue!*, the working title of a game first conceived in September 1982 by myself and Loren Carpenter. The ideas of the original game have been expanded somewhat. Any similarities between this game and the rescue scene on the ice planet Hoth are purely coincidental.

Game Overview

In this game, the player is operating a high speed X-Wing like craft. The object is to locate and rescue the missing pilots and their downed plane on an enemy-infested planet which has very rough terrain. Once the pilots are rescued, the player must fly his craft to the mother ship, which has just returned and is in orbit above the planet. The player's point of view is from the cockpit, so everything on the screen is either of the view out the window or the controls.

Fractal lines will be generated in real time to create the terrain. At first the lines will be mostly horizontal, showing far off mountain ranges, but as the game progresses, they will begin forming deep canyons and valleys, complete with forked passages. Enemy fighter planes have been alerted to the player's approximate whereabouts so the plane must be kept as close to the ground as possible to avoid their radar. Of course, if the player gets too close to the ground or a canyon wall, he will crash.

To help locate the downed plane, a homing signal will be tracked. The player can tell whether he is getting closer or farther away. As the player approaches the downed pilot, a signal will alert the player to begin his descent for the rescue. A signal will be seen rapidly approaching the player. Since many other specks also pass by, the player must keep one eye on the instrument panel's homing signal indicator.

The Controls

The plane is controlled by the joystick, which can move forward and back, left and right, and up and down. To bank the plane left and right, forward and back on the stick subtracts or adds altitude. To control the craft, the joystick can be used as a fire button for a rear gun. A specially designed analog joystick would be ideal. The 5200 already has the analog joystick support package to the pilot (see Readout). The keyboard could be used if necessary for switching support package to the pilot (see Readout). The front and rear guns, dropping a life support package near the pilot. Possible instrument panel readouts include rear view screen, fuel gauge, opened/closed, compass heading, horizon indicator, other ship in orbit, and radar.

Proprietary Information

Lucasfilm Ltd.

Proprietary Information

The Screen
The main focus on the screen is the view from the window. The landscape will be calculated in real time and will consist of three or four fractal lines. As the plane moves forward, the screen will pass beneath the plane and a new line will appear in the distance. Each line represents the contour of the landscape at a certain distance and will be drawn with a different color register to color cues for distance can also be used. With this technique, it will be necessary to make the background a set color. Loren feels it might also be possible to fill in the area beneath the fractal lines to give the terrain a more solid look. If this is possible, then the sky could be one color and the terrain another color (green/brown or chartreuse - it is an alien landscape after all). If it's necessary to decrease the computing time, we could borrow the trick of redacting the active area of the screen from the game Wayout. Experimentation will determine what is possible.

During the early segments of the game, while flying over relatively flat terrain, the pilot will be able to execute 360 degree turns. However, as soon as the plane enters the canyons, these turns will be impossible, and the plane will only be able to travel forward.

After the player has rescued all of the pilots at the current level of play (or when the mother ship arrives and the player wants to abort his current mission), the transition scene to the next level begins. The player must make his craft climb out of the canyon, out of the planet's atmosphere, and into orbit to join with the waiting mother ship. The plane will not be able to exceed an altitude of 20,000* feet (the maximum reading on the altimeter) without using the Booster Rockets (which would immediately jump the game to the transition scene). In addition, a cloud layer will be placed at 15,000* feet. If the plane flies above this altitude, the view will immediately "fog out" and turn white. The higher the plane flies, the faster the enemy will spot it on their radar, so the player will avoid high-altitude travel until the proper time.

The Enemy

The enemy wants to make sure that the downed pilots stay downed. In fact, they would like to turn the player into another downed pilot. They are constantly looking for moving craft and will eventually spot the player. This will happen earlier if the player doesn't hug the ground. Eventually, the player's ship will be spotted, regardless of how low he flies. The enemy ships will then begin chasing and firing at the player. He can track them on his rear radar when they are behind him, fire at them or try to run them into the canyon walls or rocky terrain. The latter is accomplished by flying towards the wall with an enemy craft close on the player's tail. Then, at the last possible moment, to veer away from the wall. The enemy, having poorer reflexes than the player, may not be able to pull away in time and crashes into the wall. There will be a preset number of enemy fighters on each level (see Difficulty Levels).

Rescuing the Pilot

Once a downed pilot has been spotted, the player must land his craft and rescue him. At lower game levels, the player simply releases the throttle button and pushes forward on the stick. At higher levels, the velocity and angle of descent play a much more important role in a successful landing. When the craft has landed, a happy pilot is seen running toward the ship. He disappears off to the side of the screen at which time the player must open the air lock door (by pressing a button), wait until the pilot has boarded (the scene will dip as his extra weight causes the ship to bounce for a moment), close the door, and take off.

If the player misses the pilot and flies over him, he will just have to leave him to the elements (or the next game level). Fifty extra points will be awarded if the player manages to drop a life support package near the pilot. There will always be enough pilots ahead to fulfill the quota for that level of play.

*These numbers can be adjusted as necessary.

Lucasfilm Ltd.

Transition Scene

After a set amount of time has elapsed, the mother ship will return from its safe hiding place far away to orbit the planet. This may happen before the player has accomplished his mission (rescuing n pilots, see Difficulty Levels below), but the ship will always be there when the quota of pilots has been rescued. When the ship arrives, a warning indicator will light up and a tone will sound. The player may then leave the planet, and the transition scene which is under computer control, begins. To initiate this sequence, the player presses the Fire (Booster Rocket) button while pulling back on the joystick. This causes the craft to rocket upward and forward, outrunning any enemy craft in the area. The player will move through the cloud layer, and find himself climbing through the deep blue (orange?) upper atmosphere. The sky will continue to darken and some stars will appear. Finally the mother ship comes into view and rapidly expands in size until its docking bay fills the screen. The player is instructed to open his air lock door, the rescued pilots disembark, the player closes the door and immediately returns to the planet for the next level of play. This entire sequence lasts no more than 20-30 seconds. Its purpose is to add some exciting special effects to the game and to provide a bridge to the next highest level.

Firing the Booster Rockets before the mother ship has returned will use up precious fuel, and the player may find himself stranded in space, at the mercy of countless enemy craft. If the player returns to the mother ship before the mission has been completed, he will receive only a part of his bonus points. Opening the air lock door while flying in the atmosphere causes a sudden drop in altitude (could be fatal if the player doesn't close the door and compensate immediately). Opening the air lock door while in space causes immediate death.

Difficulty Levels

The player has the choice of entering the game at any of a number of difficulty levels. The easier levels have flatter terrain, fewer downed pilots to rescue, and fewer enemy planes to avoid while the harder levels have winding canyons, a larger number of victims to help, and hordes of enemy fighters. Level 1 will have no enemy planes and two pilots to rescue, Level 2 will have two enemy planes and four pilots, Level 3 will have four enemies and eight pilots, etc. The enemy planes also become more intelligent, aggressive and accurate at the higher levels and the badings more difficult. The game advances to the next level after the player docks with the mother ship (see Transition Scenes).

Scoring

Points are scored for the amount of time the player spends in the air (1 point per second), into the canyon walls (100 points each), each pilot which is picked up during a rescue (200), and especially for returning all pilots to the mother ship (500 bonus points for completed). Bonus points are also scored if the player chooses to begin the game at Lipede or Tempest. These bonus points are scored in all lower levels.

End of Game

The game will end when all of the player's ships are destroyed. He may start with either three or five ships, depending on OPTION setting.

Optional Scenarios

If for some reason we decided we didn't want this game to have a space motif, we could move it to a different time frame. The game could even take place on this planet during one of our more popular wars (yuck!). Another possibility would be to turn this into an Indiana Jones adventure. Indiana could be searching for a secret cave or the place where Marion is being held captive, the evil Nazis or his

Proprietary Information

Below: I believe a space theme would be more exciting.

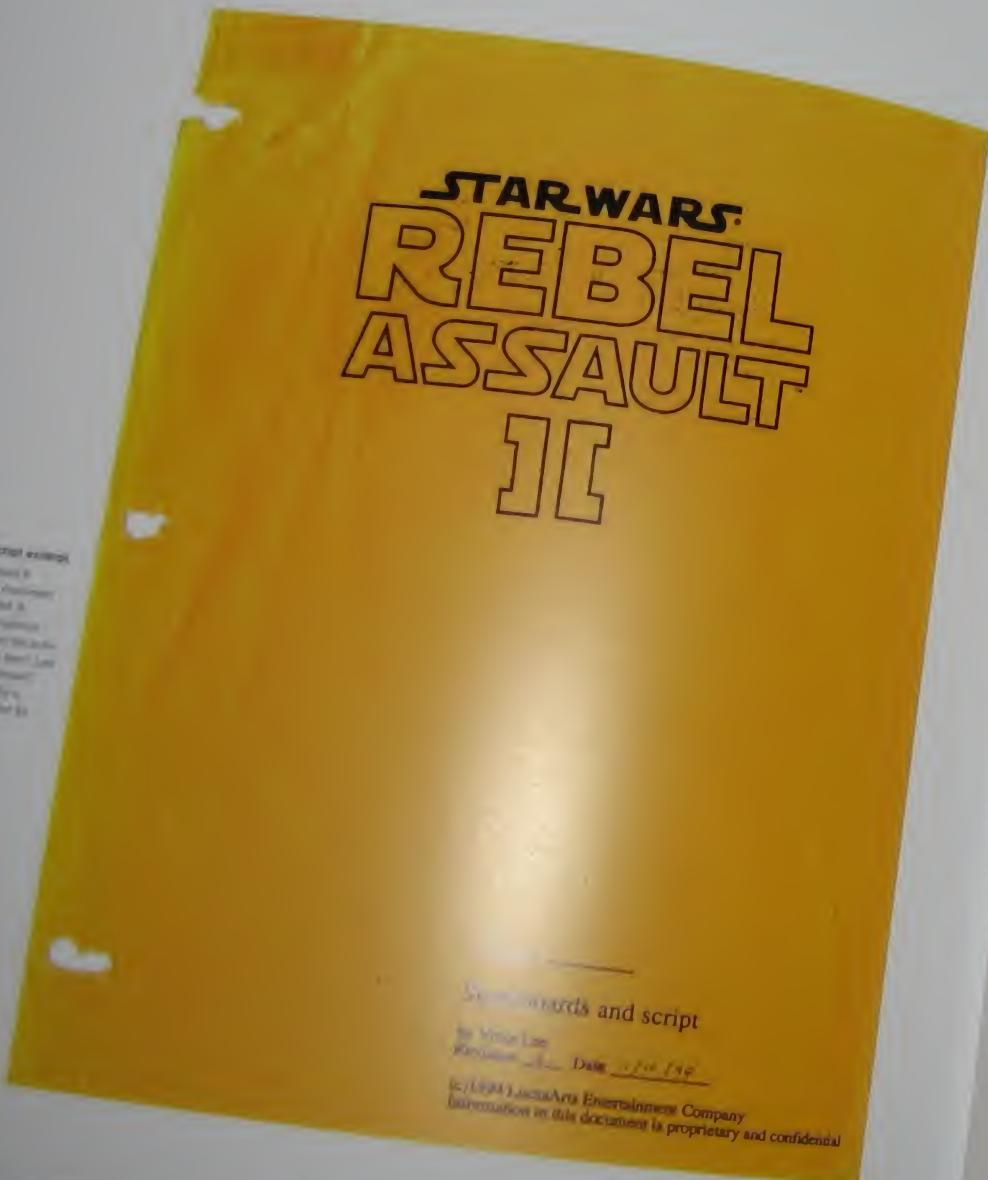
Using the Technology

Once the technology for rapidly creating fractal lines on the Atari Home Computer has been perfected, it could be used in many other games. How about a flight through an asteroid field, a tank duel chase through a twisting maze of caves, a car racing game through a forested country or mountain, or a downhill skiing adventure with trees and rocks as the obstacles? The possibilities are endless.

Below: One of the disguised aliens added in Revision on Fractiles, at George Lucas' suggestion.



Appendix B



Character Sysopsis

Mark Hamill
Rookie One: Male, early to mid twenties. A farm boy of Tatooine, much like Luke Skywalker. Young and enthusiastic, Rookie One joined the Rebels after losing his family in a freak farm-machinery accident. Rookie One gained much experience in the Battle of Yavin.

Mandy Patinkin
Commander Jenn: Female, late twenties to early thirties. Professional but with good sense of humor. Good friends with Ensign Till, whom she teases playfully to no end.

Christopher Meloni
Ensign Till: Male, early twenties. Young, unexperienced, with a tendency to ramble-on in tense situations.

James Woods
Commander Kirby: Male, early forties. Experienced no-nonsense pilot, but still personable and well-respected by his troops. Somewhat cynical at times.

John Goodman
Captain Merrick: Male, early to mid thirties, heavy-set. An enthusiastic live-life-to-its-fullest kind of guy, Merrick believes in fun and couldn't think of a more enjoyable place to be than in the middle of a battle against the Empire.

Janet Hubert
Ina Rece: Female, early twenties. Also an enthusiastic pilot, Rece is Merrick's cousin and good friend. Rece has a strong, sometimes dry sense of humor.

Collette Mochard
Ru Murleen: Female, early thirties. Hotshot pilot whose whole life has been centered around flying. She is friends of Rookie One, whom she met just prior to the Battle of Yavin. Ru is quick, bright, and has a dry, sometimes sarcastic sense of humor.

Tommy Lee Jones
Commander Krane: Male, late forties. Krane is tough and not good with people. He despises the Empire and believes the best way to defeat it is with a well-honed command.

Jeff Bridges
Dornell Reggs: Male, late twenties. Reggs flies under the command of Krane. Reggs has come to understand Krane as a person and respects him as a talented pilot and skillful military leader. He follows Krane's orders without question, but does not hold the Commander in high regard on a personal level.

Billy Baldwin
Cargo Captain: Male, mid twenties. A smuggler dealing mostly in small shipments of no interest to the Empire. Avoids confrontations whenever possible and is most comfortable existing in shadows.

Darth Vader
Darth Vader: The Lord of Sith. Once having been called Anakin Skywalker, Darth Vader is the faithful servant of the Emperor. Darth Vader's strongest desire is to destroy the Rebel Alliance.

Section

Opening

1/4

1/

[Fade up from black. Show Darth Vader from behind, standing in a darkened room looking out the window on his Star Destroyer. Admiral Sam approaches from behind. Darth turns around]

Imp (adr): You wanted to see me, Admiral?

[00-B-01] Sigma: Ah yes. Tell your men I want to meet them. I want to see the destruction no one else can. I want to meet Flawless. D. I make

[Cut to close-up of Sam.] Commander: Right. Yes. Sir. That'll be ready. Commander: Good. Sam: Good. Commander: Right. Yes. Sir. That'll be ready. Commander: Right. Yes. Sir. That'll be ready.

Admiral Sam: The Rebel fighters are in range, my Lord. Sigma squadron stands ready, awaiting your command.

[00-B-02]

[Cut to close-up of Darth]

Darth Vader: Very well, Admiral. Engage the Rebels.

[00-B-03]

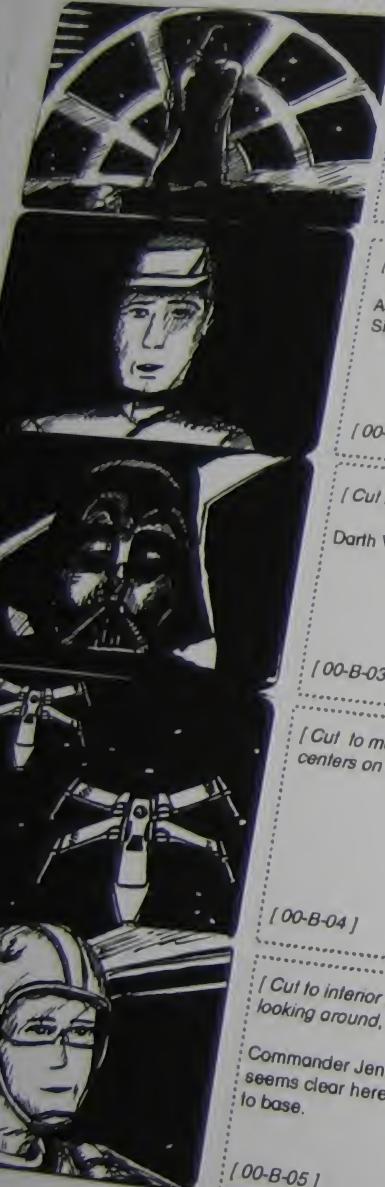
[Cut to medium shot of four Rebel ships in flight. Camera centers on one of two lead craft]

[00-B-04]

[Cut to interior of ship... Pilot is looking over intercom while looking around, scouting for stuff]

Commander Jenn: Flight lead... Commander... Pilot. If all seems clear here. Let's make our move now and get back to base.

[00-B-05]



Section

opening

2/4

2/

[Cut to other ship]

Ensign Till: I hear you. [slightly timidly] I don't wanna stay here a second longer than necessary.

Commander Jenn: [kidding over intercom] What's the matter, Till?...

[00-B-06]

[Cut to whip pan of ships passing, showing nothing around]

Commander Jenn: ...Are you telling me a hotshot pilot like you's afraid of the Brighton Triangle?

Picture

[00-B-07]

[Cut back to second ship]

Ensign Till: Look. I'm not saying I believe in ghost ships or anything, but you've gotta admit.....there've been a whole lot've unexplained disappearances in these parts over the last fifty years or so... this sector

[00-B-08]

[Cut to first ship, where Jenn is laughing quietly...]

Ensign Till: Now you can't tell me that those are ALL just myths or coincidences. I mean...

[Zing! BOOM! An explosion rocks the ship. Bright flash can be seen outside. Pilot looks behind and back]

Commander Jenn: What the... I'm hit! I've lost my stabilizer... [00-B-09]

[Cut to outside. First ship veers over toward second ship. Part of wing and engine is missing]

[00-B-10]

Appendix C

STAR WARS
ROGUE JEDI

STAR WARS
SCUM AND VILLAINY

STAR WARS
JEDI MASTER

STAR WARS
REBEL JEDI

STAR WARS
REBEL WARRIOR

STAR WARS
UNDERWORLD

STAR WARS
JEDI KNIGHT III
BRINK OF DARKNESS

STAR WARS
RISE OF THE REBELLION

STAR WARS
JEDI REBEL

STAR WARS
EPISODE VII
SHADOWS OF THE SITH

STAR WARS
SMUGGLER

STAR WARS
MARTH & MALL

STAR WARS
REBEL AGENT

STAR WARS
REBEL FURY

STAR WARS
JEDI HUNTER

STAR WARS
REBEL SCUM

STAR WARS
HAN-SOLO

STAR WARS
VADER

STAR WARS
~~JEDI OUTLAW~~

STAR WARS
DARK JEDI

Unused Star Wars game logos
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logos are trademarks of Lucasfilm, Inc.
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Film Group Inc. All rights reserved.
Designed by Peter Pauza

Author's Notes + Selected Bibliography

Index

Research for this book involved interviews—by phone, by email, and in person—with many of the people who shaped and built the LucasArts legacy. I conducted in-person interviews with Steve Arnold, Peter Langston, Gary Winnick, Neal Falacci, David Fox, Dave Grossman, Tim Schafer, Ron Gilbert, Hal Barwood, Justin Chen, Kelly Flock, Ron Gilbert, Peter Hornbahn, Jon Knabe, Randy Kowalski, Tim Martin, Jack Sorenson, Kaitlyn Sorenson, and Jim Ward. Most of their quotes are published here for the first time.

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Right: A photograph of Luke, Leia, R2-D2, and C-3PO, from LEGO Star Wars

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